FORM 3

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

AMENDED REPORT ☐

APPLICATION FOR PERMIT TO DRILL		1. WELL NAME and NUMBER: NBU 1021-1O3AS
2. TYPE OF WORK: DRILL NEW WELL (●) REENTER P&A WELL ( ) DEEPEN WELL ( )		3. FIELD OR WILDCAT: NATURAL BUTTES
4. TYPE OF WELL: Gas Well Coalbed Methane Well: NO		5. UNIT or COMMUNITIZATION AGREEMENT NAME: NATURAL BUTTES
6. NAME OF OPERATOR: KERR-MCGEE OIL & GAS ONSHORE, L.P.		7. OPERATOR PHONE: 307-752-1169
8. ADDRESS OF OPERATOR: P.O. Box 173779, Denver, CO, 80217		9. OPERATOR E-MAIL: Laura.Gianakos@anadarko.com
10. MINERAL LEASE NUMBER (FEDERAL, INDIAN, OR STATE): ML 23612	11. MINERAL OWNERSHIP: FEDERAL ( ) INDIAN ( ) STATE (●) FEE ( )	12. SURFACE OWNERSHIP: FEDERAL ( ) INDIAN ( ) STATE (●) FEE ( )
13. NAME OF SURFACE OWNER (if box 12 = 'fee')		14. SURFACE OWNER PHONE (if box 12 = 'fee')
15. ADDRESS OF SURFACE OWNER (if box 12 = 'fee')		16. SURFACE OWNER E-MAIL (if box 12 = 'fee')
17. INDIAN ALLOTTEE OR TRIBE NAME (if box 12 = 'INDIAN')	18. INTEND TO COMMINGLE PRODUCTION FROM MULTIPLE FORMATIONS: YES (●) (Submit Commingling Application) NO ( )	19. SLANT: VERTICAL ( ) DIRECTIONAL (●) HORIZONTAL ( )

20. LOCATION OF WELL	FOOTAGES	QTR-QTR	SECTION	TOWNSHIP	RANGE	MERIDIAN
LOCATION AT SURFACE	393 FSL 2439 FEL	SWSE	1	10.0 S	21.0 E	S
Top of Uppermost Producing Zone	368 FSL 2037 FEL	SWSE	1	10.0 S	21.0 E	S
At Total Depth	368 FSL 2037 FEL	SWSE	1	10.0 S	21.0 E	S

21. COUNTY: UINTAH	22. DISTANCE TO NEAREST LEASE LINE (Feet): 368	23. NUMBER OF ACRES IN DRILLING UNIT: 571
	25. DISTANCE TO NEAREST WELL IN SAME POOL (Applied For Drilling or Completed): 1000	26. PROPOSED DEPTH: MD: 9477 TVD: 9423
27. ELEVATION - GROUND LEVEL: 5222	28. BOND NUMBER: 22013542	29. SOURCE OF DRILLING WATER / WATER RIGHTS APPROVAL NUMBER IF APPLICABLE: Permit #43-8496

ATTACHMENTS

VERIFY THE FOLLOWING ARE ATTACHED IN ACCORDANCE WITH THE UTAH OIL AND GAS CONSERVATION GENERAL RULES

☑ WELL PLAT OR MAP PREPARED BY LICENSED SURVEYOR OR ENGINEER	☑ COMPLETE DRILLING PLAN
☐ AFFIDAVIT OF STATUS OF SURFACE OWNER AGREEMENT (IF FEE SURFACE)	☐ FORM 5. IF OPERATOR IS OTHER THAN THE LEASE OWNER
☑ DIRECTIONAL SURVEY PLAN (IF DIRECTIONALLY OR HORIZONTALLY DRILLED)	☑ TOPOGRAPHICAL MAP

NAME: Danielle Piernot	TITLE: Regulatory Analyst	PHONE: 720 929-6156
SIGNATURE	DATE: 12/18/2009	EMAIL: gnbregulatory@anadarko.com

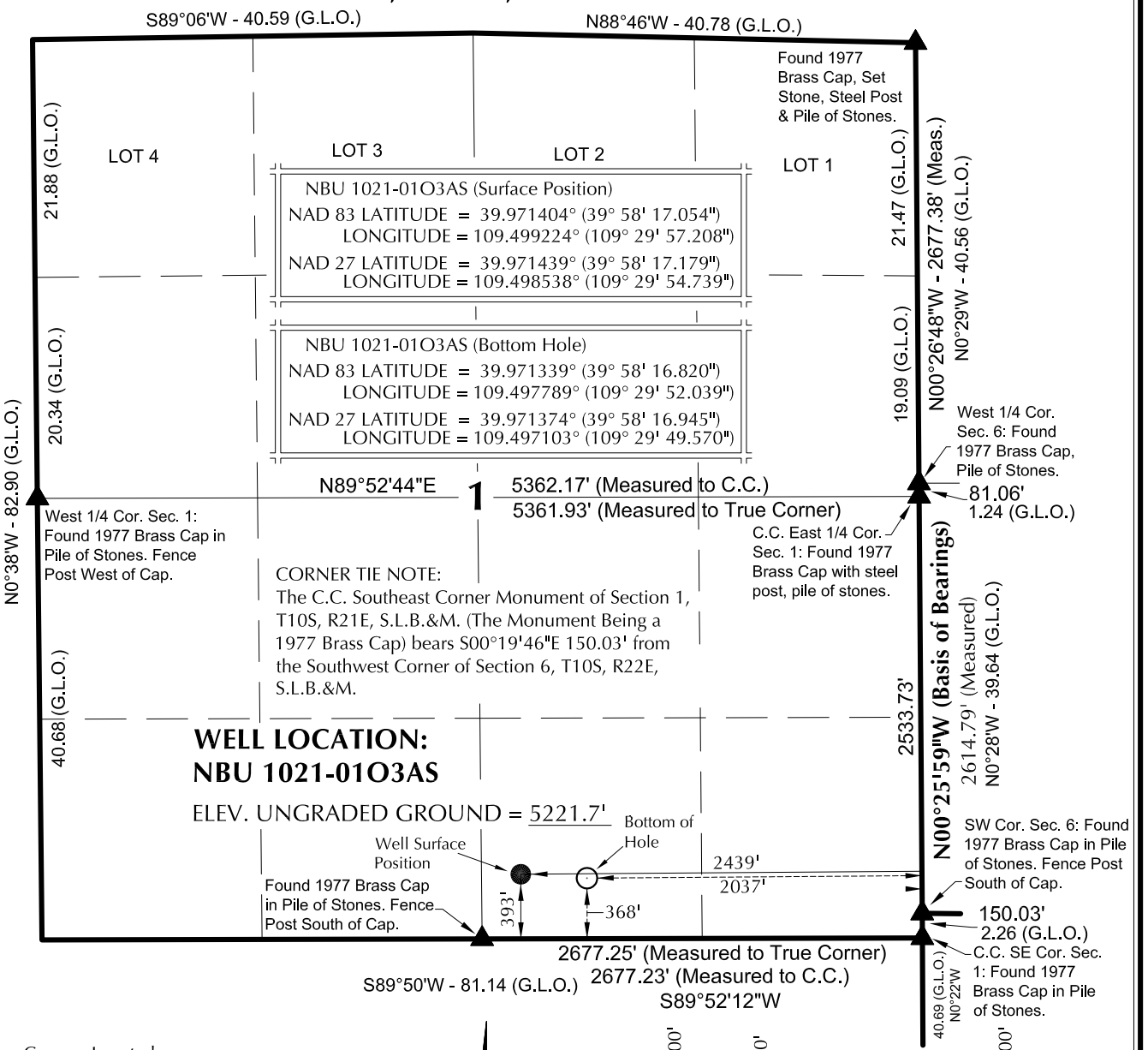
API NUMBER ASSIGNED: 43047508540000	APPROVAL: Permit Manager

Proposed Hole, Casing, and Cement						
String	**Hole Size**	**Casing Size**	**Top (MD)**	**Bottom (MD)**		
Prod	7.875	4.5	0	9477		
Pipe	**Grade**	**Length**	**Weight**			
	Grade I-80 Buttress	9477	11.6			

Proposed Hole, Casing, and Cement						
String	**Hole Size**	**Casing Size**	**Top (MD)**	**Bottom (MD)**		
Surf	11	8.625	0	2255		
Pipe	**Grade**	**Length**	**Weight**			
	Grade I-80 LT&C	2255	28.0			

'APIWellNo:43047508540000'

T10S, R21E, S.L.B.&M.



SCALE

NOTES:

▲ = Section Corners Located

1. Well footages are measured at right angles to the Section Lines.
2. G.L.O. distances are shown in feet or chains. 1 chain = 66 feet.
3. The Bottom of hole bears S86°36'23"E 403.22' from the Surface Position.
4. Bearings are based on Global Positioning Satellite observations.
5. Basis of elevation is Tri-Sta "Two Water" located in the NW $\frac{1}{4}$ of Section 1, T10S, R21E, S.L.B.&M. The elevation of this Tri-Sta is shown on the Big Pack Mtn NE 7.5 Min. Quadrangle as being 5238'.

SURVEYOR'S CERTIFICATE

THIS IS TO CERTIFY THAT THE ABOVE PLAT WAS PREPARED FROM FIELD NOTES OF ACTUAL SURVEYS MADE BY ME OR UNDER MY SUPERVISION AND THAT THE SAME ARE TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

REGISTERED LAND SURVEYOR No.362251 KOLBY R. KAY STATE OF UTAH

Kolby R. Kay

REGISTERED LAND SURVEYOR
REGISTRATION NO. 362251
STATE OF UTAH

Kerr-McGee Oil & Gas Onshore, LP
1099 18th Street - Denver, Colorado 80202

WELL PAD - NBU 1021-01O

NBU 1021-01O3AS
WELL PLAT
368' FSL, 2037' FEL (Bottom Hole)
SW $\frac{1}{4}$ SE $\frac{1}{4}$ OF SECTION 1, T10S, R21E, S.L.B.&M., UINTAH COUNTY, UTAH.

609 CONSULTING, LLC
371 Coffeen Avenue
Sheridan WY 82801
Phone 307-674-0609
Fax 307-674-0182

TIMBERLINE (435) 789-1365
ENGINEERING & LAND SURVEYING, INC.
209 NORTH 300 WEST - VERNAL, UTAH 84078

DATE SURVEYED: 06-24-09	SURVEYED BY: D.J.S.	SHEET NO: 1
DATE DRAWN: 06-25-09	DRAWN BY: M.W.W.	1 OF 13
SCALE: 1" = 1000'	Date Last Revised:	

ANADARKO PETROLEUM CORP.

UINTAH COUNTY, UTAH (nad 27)
NBU 1021-1O Pad
NBU 1021-1O3AS

NBU 1021-1O3AS

Plan: PLAN #1 11-19-09 RHS

Standard Planning Report

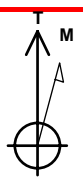
19 November, 2009

'APIWellNo:43047508540000'

Anadarko E&P Company LP

NBU 1021-1O3AS
UINTAH COUNTY, UTAH (nad 27)
393 FSL 2439 FEL
SECTION 1 T10S R21E
LAT: 39° 58' 17.180 N
LONG: 109° 29' 54.737 W

Weatherford



Azimuths to True North
Magnetic North: 11.30°

Magnetic Field
Strength: 52478.1snT
Dip Angle: 65.90°
Date: 11/19/2009
Model: BGGM2009

WELL DETAILS: NBU 1021-1O3AS

Ground Level: 5221.00

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.00	0.00	14519185.79	2061097.22	39° 58' 17.180 N	109° 29' 54.737 W	

WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
PBHL	9423.00	-23.67	402.13	39° 58' 16.946 N	109° 29' 49.571 W	Circle (Radius: 25.00)

FORMATION TOP DETAILS

TVDPath	MDPath	Formation
1366.00	1366.00	GREEN RIVER
4621.00	4674.89	WASATCH
8141.00	8194.89	MESAVERDE

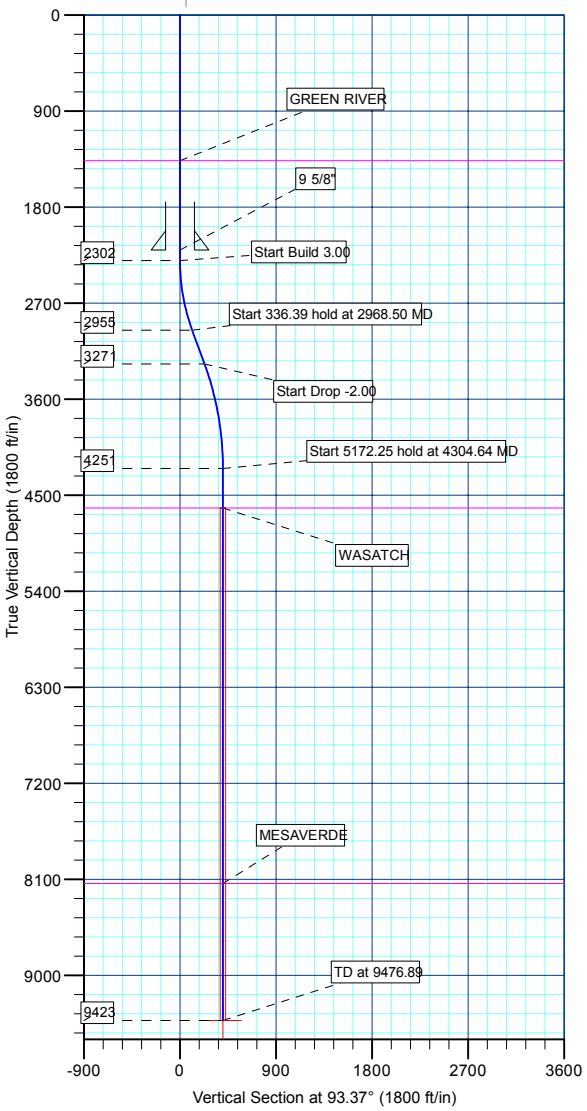
CASING DETAILS

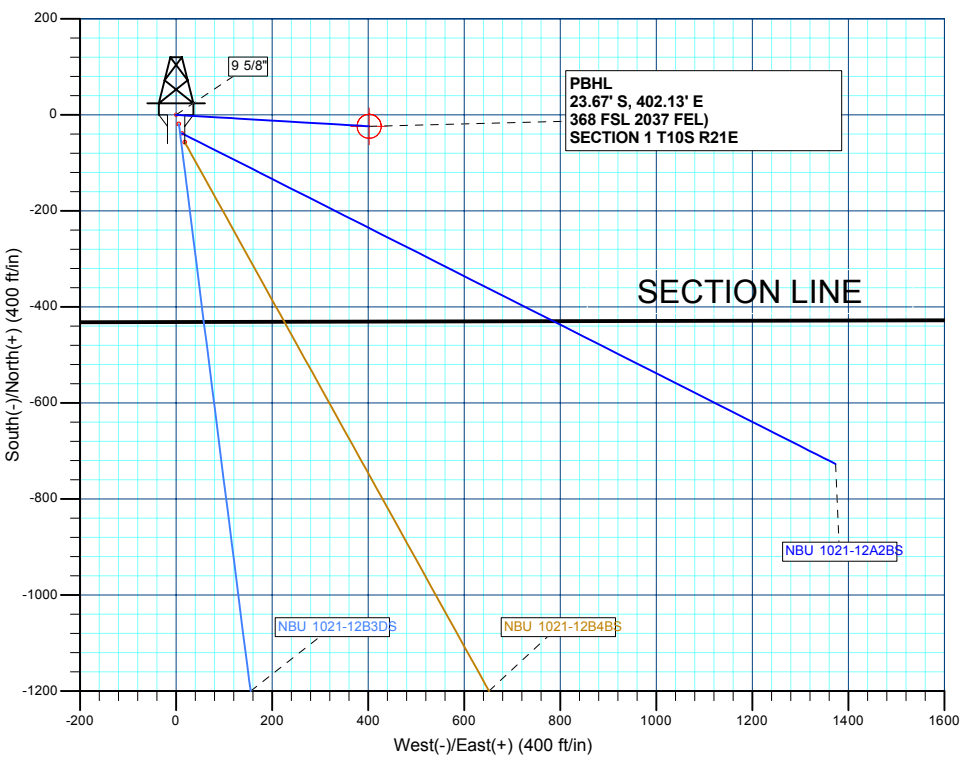
TVD	MD	Name	Size
2202.00	2202.00	9 5/8"	9.62

SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2302.00	0.00	0.00	2302.00	0.00	0.00	0.00	0.00	0.00	
2968.50	20.00	93.37	2955.06	-6.76	114.92	3.00	93.37	115.12	
3304.89	20.00	93.37	3271.17	-13.52	229.75	0.00	0.00	230.15	
4304.64	0.00	0.00	4250.75	-23.67	402.13	2.00	180.00	402.83	
9476.89	0.00	0.00	9423.00	-23.67	402.13	0.00	0.00	402.83	PBHL_NBU 1021-1O3AS(368 FSL 2037 FEL)25' TGT RAD

KB ELEV: WELL @ 5235.00ft (Original Well Elev)
RD ELEV: 5221.00





Plan: PLAN #1 11-19-09 RHS (NBU 1021-1O3AS/NBU 1021-1O3AS)

Created By: Robert H. Scott 17:36, November 19 2009

Weatherford International Ltd.

Planning Report

Database:	EDM 2003.21 Single User Db	**Local Co-ordinate Reference:**	Well NBU 1021-1O3AS
Company:	ANADARKO PETROLEUM CORP.	**TVD Reference:**	WELL @ 5235.00ft (Original Well Elev)
Project:	UINTAH COUNTY, UTAH (nad 27)	**MD Reference:**	WELL @ 5235.00ft (Original Well Elev)
Site:	NBU 1021-1O Pad	**North Reference:**	True
Well:	NBU 1021-1O3AS	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	NBU 1021-1O3AS		
Design:	PLAN #1 11-19-09 RHS		

Project UINTAH COUNTY, UTAH (nad 27),

Map System:	Universal Transverse Mercator (US Survey Fee	**System Datum:**	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	Zone 12N (114 W to 108 W)		

Site NBU 1021-1O Pad, SECTION 1 T10S R21E

Site Position:		**Northing:**	14,519,185.79 ft	**Latitude:**	39° 58' 17.180 N
From:	Lat/Long	**Easting:**	2,061,097.22 ft	**Longitude:**	109° 29' 54.737 W
Position Uncertainty:	0.00 ft	**Slot Radius:**	in	**Grid Convergence:**	0.96 °

Well NBU 1021-1O3AS

Well Position	**+N/-S**	0.00 ft	**Northing:**	14,519,185.79 ft	**Latitude:**	39° 58' 17.180 N
	+E/-W	0.00 ft	**Easting:**	2,061,097.22 ft	**Longitude:**	109° 29' 54.737 W
Position Uncertainty		0.00 ft	**Wellhead Elevation:**	ft	**Ground Level:**	5,221.00 ft

Wellbore NBU 1021-1O3AS

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	BGGM2009	11/19/2009	11.30	65.90	52,478

Design PLAN #1 11-19-09 RHS

Audit Notes:

Version:		**Phase:**	PLAN	**Tie On Depth:**	0.00

Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.00	0.00	0.00	93.37

Plan Sections

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,302.00	0.00	0.00	2,302.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,968.50	20.00	93.37	2,955.06	-6.76	114.92	3.00	3.00	0.00	93.37	
3,304.89	20.00	93.37	3,271.17	-13.52	229.75	0.00	0.00	0.00	0.00	
4,304.64	0.00	0.00	4,250.75	-23.67	402.13	2.00	-2.00	0.00	180.00	
9,476.89	0.00	0.00	9,423.00	-23.67	402.13	0.00	0.00	0.00	0.00	PBHL_NBU 1021-1

Database:	EDM 2003.21 Single User Db	**Local Co-ordinate Reference:**	Well NBU 1021-1O3AS
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Project:	UINTAH COUNTY, UTAH (nad 27)	**MD Reference:**	WELL @ 5235.00ft (Original Well Elev)
Site:	NBU 1021-1O Pad	**North Reference:**	True
Well:	NBU 1021-1O3AS	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	NBU 1021-1O3AS		
Design:	PLAN #1 11-19-09 RHS		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
Start Build 3.00									
2,302.00	0.00	0.00	2,302.00	0.00	0.00	0.00	0.00	0.00	0.00
2,400.00	2.94	93.37	2,399.96	-0.15	2.51	2.51	3.00	3.00	0.00
2,500.00	5.94	93.37	2,499.65	-0.60	10.24	10.25	3.00	3.00	0.00
2,600.00	8.94	93.37	2,598.79	-1.36	23.16	23.20	3.00	3.00	0.00
2,700.00	11.94	93.37	2,697.13	-2.43	41.25	41.32	3.00	3.00	0.00
2,800.00	14.94	93.37	2,794.38	-3.79	64.45	64.56	3.00	3.00	0.00
2,900.00	17.94	93.37	2,890.28	-5.46	92.70	92.86	3.00	3.00	0.00
Start 336.39 hold at 2968.50 MD									
2,968.50	20.00	93.37	2,955.06	-6.76	114.92	115.12	3.00	3.00	0.00
3,000.00	20.00	93.37	2,984.65	-7.40	125.68	125.89	0.00	0.00	0.00
3,100.00	20.00	93.37	3,078.63	-9.41	159.81	160.09	0.00	0.00	0.00
3,200.00	20.00	93.37	3,172.60	-11.42	193.94	194.28	0.00	0.00	0.00
3,300.00	20.00	93.37	3,266.57	-13.43	228.08	228.47	0.00	0.00	0.00
Start Drop -2.00									
3,304.89	20.00	93.37	3,271.17	-13.52	229.75	230.15	0.00	0.00	0.00
3,400.00	18.09	93.37	3,361.07	-15.35	260.73	261.18	2.00	-2.00	0.00
3,500.00	16.09	93.37	3,456.65	-17.07	290.07	290.57	2.00	-2.00	0.00
3,600.00	14.09	93.37	3,553.19	-18.60	316.06	316.61	2.00	-2.00	0.00
3,700.00	12.09	93.37	3,650.59	-19.94	338.67	339.26	2.00	-2.00	0.00
3,800.00	10.09	93.37	3,748.71	-21.07	357.88	358.50	2.00	-2.00	0.00
3,900.00	8.09	93.37	3,847.45	-21.99	373.65	374.30	2.00	-2.00	0.00
4,000.00	6.09	93.37	3,946.68	-22.72	385.98	386.65	2.00	-2.00	0.00
4,100.00	4.09	93.37	4,046.28	-23.24	394.84	395.52	2.00	-2.00	0.00
4,200.00	2.09	93.37	4,146.13	-23.56	400.23	400.92	2.00	-2.00	0.00
4,300.00	0.09	93.37	4,246.11	-23.67	402.13	402.83	2.00	-2.00	0.00
Start 5172.25 hold at 4304.64 MD									
4,304.64	0.00	0.00	4,250.75	-23.67	402.13	402.83	2.00	-2.00	-2,011.10
4,400.00	0.00	0.00	4,346.11	-23.67	402.13	402.83	0.00	0.00	0.00
4,500.00	0.00	0.00	4,446.11	-23.67	402.13	402.83	0.00	0.00	0.00
4,600.00	0.00	0.00	4,546.11	-23.67	402.13	402.83	0.00	0.00	0.00
WASATCH									
4,674.89	0.00	0.00	4,621.00	-23.67	402.13	402.83	0.00	0.00	0.00
4,700.00	0.00	0.00	4,646.11	-23.67	402.13	402.83	0.00	0.00	0.00
4,800.00	0.00	0.00	4,746.11	-23.67	402.13	402.83	0.00	0.00	0.00
4,900.00	0.00	0.00	4,846.11	-23.67	402.13	402.83	0.00	0.00	0.00
5,000.00	0.00	0.00	4,946.11	-23.67	402.13	402.83	0.00	0.00	0.00
5,100.00	0.00	0.00	5,046.11	-23.67	402.13	402.83	0.00	0.00	0.00
5,200.00	0.00	0.00	5,146.11	-23.67	402.13	402.83	0.00	0.00	0.00
5,300.00	0.00	0.00	5,246.11	-23.67	402.13	402.83	0.00	0.00	0.00
5,400.00	0.00	0.00	5,346.11	-23.67	402.13	402.83	0.00	0.00	0.00
5,500.00	0.00	0.00	5,446.11	-23.67	402.13	402.83	0.00	0.00	0.00
5,600.00	0.00	0.00	5,546.11	-23.67	402.13	402.83	0.00	0.00	0.00
5,700.00	0.00	0.00	5,646.11	-23.67	402.13	402.83	0.00	0.00	0.00
5,800.00	0.00	0.00	5,746.11	-23.67	402.13	402.83	0.00	0.00	0.00
5,900.00	0.00	0.00	5,846.11	-23.67	402.13	402.83	0.00	0.00	0.00
6,000.00	0.00	0.00	5,946.11	-23.67	402.13	402.83	0.00	0.00	0.00
6,100.00	0.00	0.00	6,046.11	-23.67	402.13	402.83	0.00	0.00	0.00
6,200.00	0.00	0.00	6,146.11	-23.67	402.13	402.83	0.00	0.00	0.00
6,300.00	0.00	0.00	6,246.11	-23.67	402.13	402.83	0.00	0.00	0.00
6,400.00	0.00	0.00	6,346.11	-23.67	402.13	402.83	0.00	0.00	0.00
6,500.00	0.00	0.00	6,446.11	-23.67	402.13	402.83	0.00	0.00	0.00
6,600.00	0.00	0.00	6,546.11	-23.67	402.13	402.83	0.00	0.00	0.00
6,700.00	0.00	0.00	6,646.11	-23.67	402.13	402.83	0.00	0.00	0.00

'APIWellNo:43047508540000'

Database:	EDM 2003.21 Single User Db	**Local Co-ordinate Reference:**	Well NBU 1021-1O3AS
Company:	ANADARKO PETROLEUM CORP.	**TVD Reference:**	WELL @ 5235.00ft (Original Well Elev)
Project:	UINTAH COUNTY, UTAH (nad 27)	**MD Reference:**	WELL @ 5235.00ft (Original Well Elev)
Site:	NBU 1021-1O Pad	**North Reference:**	True
Well:	NBU 1021-1O3AS	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	NBU 1021-1O3AS		
Design:	PLAN #1 11-19-09 RHS		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
6,800.00	0.00	0.00	6,746.11	-23.67	402.13	402.83	0.00	0.00	0.00
6,900.00	0.00	0.00	6,846.11	-23.67	402.13	402.83	0.00	0.00	0.00
7,000.00	0.00	0.00	6,946.11	-23.67	402.13	402.83	0.00	0.00	0.00
7,100.00	0.00	0.00	7,046.11	-23.67	402.13	402.83	0.00	0.00	0.00
7,200.00	0.00	0.00	7,146.11	-23.67	402.13	402.83	0.00	0.00	0.00
7,300.00	0.00	0.00	7,246.11	-23.67	402.13	402.83	0.00	0.00	0.00
7,400.00	0.00	0.00	7,346.11	-23.67	402.13	402.83	0.00	0.00	0.00
7,500.00	0.00	0.00	7,446.11	-23.67	402.13	402.83	0.00	0.00	0.00
7,600.00	0.00	0.00	7,546.11	-23.67	402.13	402.83	0.00	0.00	0.00
7,700.00	0.00	0.00	7,646.11	-23.67	402.13	402.83	0.00	0.00	0.00
7,800.00	0.00	0.00	7,746.11	-23.67	402.13	402.83	0.00	0.00	0.00
7,900.00	0.00	0.00	7,846.11	-23.67	402.13	402.83	0.00	0.00	0.00
8,000.00	0.00	0.00	7,946.11	-23.67	402.13	402.83	0.00	0.00	0.00
8,100.00	0.00	0.00	8,046.11	-23.67	402.13	402.83	0.00	0.00	0.00
MESAVERDE									
8,194.89	0.00	0.00	8,141.00	-23.67	402.13	402.83	0.00	0.00	0.00
8,200.00	0.00	0.00	8,146.11	-23.67	402.13	402.83	0.00	0.00	0.00
8,300.00	0.00	0.00	8,246.11	-23.67	402.13	402.83	0.00	0.00	0.00
8,400.00	0.00	0.00	8,346.11	-23.67	402.13	402.83	0.00	0.00	0.00
8,500.00	0.00	0.00	8,446.11	-23.67	402.13	402.83	0.00	0.00	0.00
8,600.00	0.00	0.00	8,546.11	-23.67	402.13	402.83	0.00	0.00	0.00
8,700.00	0.00	0.00	8,646.11	-23.67	402.13	402.83	0.00	0.00	0.00
8,800.00	0.00	0.00	8,746.11	-23.67	402.13	402.83	0.00	0.00	0.00
8,900.00	0.00	0.00	8,846.11	-23.67	402.13	402.83	0.00	0.00	0.00
9,000.00	0.00	0.00	8,946.11	-23.67	402.13	402.83	0.00	0.00	0.00
9,100.00	0.00	0.00	9,046.11	-23.67	402.13	402.83	0.00	0.00	0.00
9,200.00	0.00	0.00	9,146.11	-23.67	402.13	402.83	0.00	0.00	0.00
9,300.00	0.00	0.00	9,246.11	-23.67	402.13	402.83	0.00	0.00	0.00
9,400.00	0.00	0.00	9,346.11	-23.67	402.13	402.83	0.00	0.00	0.00
PBHL_NBU 1021-1O3AS(368 FSL 2037 FEL)25' TGT RAD									
9,476.89	0.00	0.00	9,423.00	-23.67	402.13	402.83	0.00	0.00	0.00

Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
PBHL_NBU 1021-1O3	0.00	0.00	9,423.00	-23.67	402.13	14,519,168.90	2,061,499.69	39° 58' 16.946 N	109° 29' 49.571 W
- plan hits target center - Circle (radius 25.00)									

Casing Points

Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (in)	Hole Diameter (in)
2,202.00	2,202.00	9 5/8"	9.62	12.25

Database:	EDM 2003.21 Single User Db	**Local Co-ordinate Reference:**	Well NBU 1021-1O3AS
Company:	ANADARKO PETROLEUM CORP.	**TVD Reference:**	WELL @ 5235.00ft (Original Well Elev)
Project:	UINTAH COUNTY, UTAH (nad 27)	**MD Reference:**	WELL @ 5235.00ft (Original Well Elev)
Site:	NBU 1021-1O Pad	**North Reference:**	True
Well:	NBU 1021-1O3AS	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	NBU 1021-1O3AS		
Design:	PLAN #1 11-19-09 RHS		

Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
1,366.00	1,366.00	GREEN RIVER			
4,674.89	4,621.00	WASATCH			
8,194.89	8,141.00	MESAVERDE			

Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates +N/-S (ft)	Local Coordinates +E/-W (ft)	Comment
2,302.00	2,302.00	0.00	0.00	Start Build 3.00
2,968.50	2,955.06	-6.76	114.92	Start 336.39 hold at 2968.50 MD
3,304.89	3,271.17	-13.52	229.75	Start Drop -2.00
4,304.64	4,250.75	-23.67	402.13	Start 5172.25 hold at 4304.64 MD
9,476.89	9,423.00	-23.67	402.13	TD at 9476.89

ANADARKO PETROLEUM CORP.

UINTAH COUNTY, UTAH (nad 27)
NBU 1021-1O Pad
NBU 1021-1O3AS

NBU 1021-1O3AS
PLAN #1 11-19-09 RHS

Anticollision Report

19 November, 2009

'APIWellNo:43047508540000'

Weatherford International Ltd.

Anticollision Report

Company:	ANADARKO PETROLEUM CORP.	**Local Co-ordinate Reference:**	Well NBU 1021-1O3AS
Project:	UINTAH COUNTY, UTAH (nad 27)	**TVD Reference:**	WELL @ 5235.00ft (Original Well Elev)
Reference Site:	NBU 1021-1O Pad	**MD Reference:**	WELL @ 5235.00ft (Original Well Elev)
Site Error:	0.00ft	**North Reference:**	True
Reference Well:	NBU 1021-1O3AS	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00ft	**Output errors are at**	2.00 sigma
Reference Wellbore	NBU 1021-1O3AS	**Database:**	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 11-19-09 RHS	**Offset TVD Reference:**	Offset Datum

Reference PLAN #1 11-19-09 RHS

Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
Interpolation Method:	Stations	**Error Model:**	ISCWSA
Depth Range:	0.00 to 20,000.00ft	**Scan Method:**	Closest Approach 3D
Results Limited by:	Maximum center-center distance of 10,000.00ft	**Error Surface:**	Elliptical Conic
Warning Levels Evaluated at:	2.00 **Sigma**		

Survey Tool Program **Date** 11/19/2009

From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
0.00	9,476.89	PLAN #1 11-19-09 RHS (NBU 1021-1O3A	MWD	MWD - Standard

Summary

Site Name Offset Well - Wellbore - Design	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
NBU 1021-1O Pad						
NBU 1021-12A2BS - NBU 1021-12A2BS - PLAN #1 11-1	300.00	300.00	40.10	39.00	36.705	CC, ES
NBU 1021-12A2BS - NBU 1021-12A2BS - PLAN #1 11-1	600.00	593.33	58.60	56.15	23.962	SF
NBU 1021-12B3DS - NBU 1021-12B3DS - PLAN #1 11-1	2,250.24	2,250.24	19.83	9.97	2.011	CC, ES
NBU 1021-12B3DS - NBU 1021-12B3DS - PLAN #1 11-1	2,302.00	2,301.64	20.14	10.06	1.998	SF
NBU 1021-12B4BS - NBU 1021-12B4BS - PLAN #1 11-1	2,262.54	2,262.54	60.01	50.10	6.053	CC, ES
NBU 1021-12B4BS - NBU 1021-12B4BS - PLAN #1 11-1	2,302.00	2,300.00	60.25	50.17	5.977	SF

Offset Design NBU 1021-1O Pad - NBU 1021-12A2BS - NBU 1021-12A2BS - PLAN #1 11-19-09 RHS — **Offset Site Error:** 0.00 ft

Survey Program: 0-MWD — **Offset Well Error:** 0.00 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
0.00	0.00	0.00	0.00	0.00	0.00	162.51	-38.24	12.05	40.10				
100.00	100.00	100.00	100.00	0.10	0.10	162.51	-38.24	12.05	40.10	39.90	0.19	207.426	
200.00	200.00	200.00	200.00	0.32	0.32	162.51	-38.24	12.05	40.10	39.45	0.64	62.373	
300.00	300.00	300.00	300.00	0.55	0.55	162.51	-38.24	12.05	40.10	39.00	1.09	36.705	CC, ES
400.00	400.00	398.47	398.42	0.77	0.75	160.03	-39.39	14.31	41.94	40.41	1.52	27.531	
500.00	500.00	496.41	496.07	1.00	0.97	153.80	-42.80	21.05	47.86	45.89	1.96	24.364	
600.00	600.00	593.33	592.18	1.22	1.23	146.43	-48.39	32.11	58.60	56.15	2.45	23.962	SF
700.00	700.00	688.76	686.08	1.45	1.56	139.87	-56.04	47.23	74.60	71.61	2.99	24.949	
800.00	800.00	782.25	777.15	1.67	1.95	134.78	-65.58	66.09	95.87	92.26	3.61	26.560	
900.00	900.00	873.45	864.87	1.89	2.42	131.02	-76.81	88.30	122.19	117.88	4.31	28.379	
1,000.00	1,000.00	962.03	948.85	2.12	2.96	128.28	-89.52	113.42	153.27	148.20	5.07	30.208	
1,100.00	1,100.00	1,047.73	1,028.78	2.34	3.57	126.27	-103.47	141.00	188.84	182.94	5.91	31.970	
1,200.00	1,200.00	1,130.38	1,104.46	2.57	4.22	124.77	-118.45	170.61	228.62	221.83	6.79	33.693	
1,300.00	1,300.00	1,218.82	1,184.39	2.79	4.99	123.55	-135.54	204.40	271.14	263.35	7.78	34.841	
1,400.00	1,400.00	1,309.16	1,266.00	3.02	5.79	122.63	-153.03	238.96	313.81	305.00	8.81	35.614	
1,500.00	1,500.00	1,399.50	1,347.62	3.24	6.61	121.94	-170.51	273.53	356.53	346.68	9.85	36.199	
1,600.00	1,600.00	1,489.84	1,429.23	3.47	7.43	121.39	-188.00	308.10	399.28	388.39	10.89	36.655	
1,700.00	1,700.00	1,580.18	1,510.85	3.69	8.25	120.95	-205.48	342.66	442.06	430.12	11.94	37.021	
1,800.00	1,800.00	1,670.52	1,592.46	3.92	9.07	120.59	-222.97	377.23	484.86	471.87	12.99	37.323	
1,900.00	1,900.00	1,760.86	1,674.07	4.14	9.90	120.28	-240.46	411.79	527.67	513.63	14.04	37.574	
2,000.00	2,000.00	1,851.20	1,755.69	4.37	10.73	120.02	-257.94	446.36	570.49	555.39	15.10	37.787	

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

'APIWellNo:43047508540000'

Company:	ANADARKO PETROLEUM CORP.	**Local Co-ordinate Reference:**	Well NBU 1021-1O3AS
Project:	UINTAH COUNTY, UTAH (nad 27)	**TVD Reference:**	WELL @ 5235.00ft (Original Well Elev)
Reference Site:	NBU 1021-1O Pad	**MD Reference:**	WELL @ 5235.00ft (Original Well Elev)
Site Error:	0.00ft	**North Reference:**	True
Reference Well:	NBU 1021-1O3AS	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00ft	**Output errors are at**	2.00 sigma
Reference Wellbore	NBU 1021-1O3AS	**Database:**	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 11-19-09 RHS	**Offset TVD Reference:**	Offset Datum

Offset Design NBU 1021-1O Pad - NBU 1021-12A2BS - NBU 1021-12A2BS - PLAN #1 11-19-09 RHS

Offset Site Error: 0.00 ft

Survey Program: 0-MWD

Offset Well Error: 0.00 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
2,100.00	2,100.00	1,941.54	1,837.30	4.59	11.56	119.80	-275.43	480.93	613.32	597.17	16.15	37.970	
2,200.00	2,200.00	2,031.88	1,918.91	4.82	12.39	119.61	-292.91	515.49	656.16	638.95	17.21	38.129	
2,302.00	2,302.00	2,124.03	2,002.16	5.05	13.24	119.43	-310.75	550.75	699.85	681.57	18.29	38.271	
2,400.00	2,399.96	2,213.51	2,083.00	5.25	14.07	25.44	-328.07	584.99	739.78	728.29	11.49	64.397	
2,500.00	2,499.65	2,306.62	2,167.11	5.46	14.93	25.07	-346.09	620.61	776.21	764.15	12.06	64.367	
2,600.00	2,598.79	2,401.28	2,252.63	5.67	15.81	24.92	-364.41	656.83	808.19	795.56	12.63	63.980	
2,700.00	2,697.13	2,497.24	2,339.32	5.91	16.69	24.99	-382.98	693.55	835.67	822.47	13.21	63.282	
2,800.00	2,794.38	2,594.24	2,426.95	6.19	17.59	25.23	-401.76	730.66	858.62	844.83	13.78	62.298	
2,900.00	2,890.28	2,692.01	2,515.27	6.53	18.50	25.66	-420.68	768.07	877.03	862.66	14.37	61.033	
2,968.50	2,955.06	2,759.28	2,576.05	6.80	19.12	26.06	-433.70	793.81	887.03	872.24	14.78	59.999	
3,000.00	2,984.65	2,790.26	2,604.03	6.93	19.40	26.31	-439.70	805.67	891.15	876.15	14.99	59.433	
3,100.00	3,078.63	2,888.61	2,692.88	7.39	20.32	27.10	-458.73	843.30	904.35	888.67	15.68	57.668	
3,200.00	3,172.60	2,986.95	2,781.72	7.89	21.23	27.88	-477.77	880.92	917.72	901.32	16.40	55.955	
3,304.89	3,271.17	3,090.10	2,874.91	8.45	22.18	28.66	-497.74	920.39	931.92	914.73	17.19	54.221	
3,400.00	3,361.07	3,183.53	2,959.31	8.92	23.05	29.45	-515.82	956.14	946.30	928.38	17.91	52.823	
3,500.00	3,456.65	3,281.43	3,047.76	9.34	23.96	30.19	-534.77	993.60	964.45	945.80	18.65	51.720	
3,600.00	3,553.19	3,378.89	3,135.80	9.75	24.86	30.84	-553.63	1,030.89	985.62	966.27	19.36	50.921	
3,700.00	3,650.59	3,475.79	3,223.34	10.13	25.76	31.40	-572.39	1,067.97	1,009.76	989.72	20.03	50.403	
3,800.00	3,748.71	3,572.01	3,310.26	10.48	26.65	31.89	-591.01	1,104.78	1,036.79	1,016.12	20.67	50.147	
3,900.00	3,847.45	3,689.80	3,416.95	10.80	27.68	32.31	-613.54	1,149.33	1,066.27	1,044.92	21.35	49.943	
4,000.00	3,946.68	3,842.55	3,557.91	11.08	28.71	32.65	-640.09	1,201.80	1,094.46	1,072.41	22.05	49.640	
4,100.00	4,046.28	3,998.64	3,704.98	11.32	29.63	32.87	-663.67	1,248.41	1,120.37	1,097.70	22.67	49.420	
4,200.00	4,146.13	4,157.91	3,857.75	11.53	30.41	32.98	-683.96	1,288.54	1,143.86	1,120.65	23.20	49.295	
4,304.64	4,250.75	4,327.76	4,023.14	11.71	31.08	126.35	-701.35	1,322.91	1,165.72	1,142.06	23.66	49.269	
4,400.00	4,346.11	4,485.52	4,178.57	11.86	31.57	126.13	-713.52	1,346.96	1,181.80	1,157.67	24.13	48.980	
4,500.00	4,446.11	4,653.70	4,345.61	12.03	31.93	125.98	-722.21	1,364.14	1,193.11	1,168.50	24.60	48.491	
4,600.00	4,546.11	4,823.58	4,515.21	12.21	32.16	125.91	-726.48	1,372.59	1,198.61	1,173.56	25.05	47.849	
4,700.00	4,646.11	4,954.49	4,646.11	12.38	32.25	125.91	-726.92	1,373.46	1,199.18	1,173.76	25.42	47.171	
4,800.00	4,746.11	5,054.49	4,746.11	12.56	32.32	125.91	-726.92	1,373.46	1,199.18	1,173.43	25.75	46.565	
4,900.00	4,846.11	5,154.49	4,846.11	12.74	32.38	125.91	-726.92	1,373.46	1,199.18	1,173.09	26.09	45.969	
5,000.00	4,946.11	5,254.49	4,946.11	12.92	32.45	125.91	-726.92	1,373.46	1,199.18	1,172.76	26.42	45.383	
5,100.00	5,046.11	5,354.49	5,046.11	13.10	32.52	125.91	-726.92	1,373.46	1,199.18	1,172.42	26.76	44.807	
5,200.00	5,146.11	5,454.49	5,146.11	13.29	32.59	125.91	-726.92	1,373.46	1,199.18	1,172.07	27.11	44.240	
5,300.00	5,246.11	5,554.49	5,246.11	13.47	32.66	125.91	-726.92	1,373.46	1,199.18	1,171.73	27.45	43.683	
5,400.00	5,346.11	5,654.49	5,346.11	13.66	32.74	125.91	-726.92	1,373.46	1,199.18	1,171.38	27.80	43.136	
5,500.00	5,446.11	5,754.49	5,446.11	13.84	32.81	125.91	-726.92	1,373.46	1,199.18	1,171.03	28.15	42.599	
5,600.00	5,546.11	5,854.49	5,546.11	14.03	32.89	125.91	-726.92	1,373.46	1,199.18	1,170.68	28.50	42.070	
5,700.00	5,646.11	5,954.49	5,646.11	14.22	32.97	125.91	-726.92	1,373.46	1,199.18	1,170.32	28.86	41.552	
5,800.00	5,746.11	6,054.49	5,746.11	14.41	33.04	125.91	-726.92	1,373.46	1,199.18	1,169.96	29.22	41.043	
5,900.00	5,846.11	6,154.49	5,846.11	14.60	33.12	125.91	-726.92	1,373.46	1,199.18	1,169.60	29.58	40.543	
6,000.00	5,946.11	6,254.49	5,946.11	14.80	33.21	125.91	-726.92	1,373.46	1,199.18	1,169.24	29.94	40.052	
6,100.00	6,046.11	6,354.49	6,046.11	14.99	33.29	125.91	-726.92	1,373.46	1,199.18	1,168.87	30.31	39.570	
6,200.00	6,146.11	6,454.49	6,146.11	15.18	33.37	125.91	-726.92	1,373.46	1,199.18	1,168.51	30.67	39.097	
6,300.00	6,246.11	6,554.49	6,246.11	15.38	33.46	125.91	-726.92	1,373.46	1,199.18	1,168.14	31.04	38.632	
6,400.00	6,346.11	6,654.49	6,346.11	15.57	33.55	125.91	-726.92	1,373.46	1,199.18	1,167.77	31.41	38.176	
6,500.00	6,446.11	6,754.49	6,446.11	15.77	33.63	125.91	-726.92	1,373.46	1,199.18	1,167.40	31.78	37.729	
6,600.00	6,546.11	6,854.49	6,546.11	15.97	33.72	125.91	-726.92	1,373.46	1,199.18	1,167.02	32.16	37.290	
6,700.00	6,646.11	6,954.49	6,646.11	16.17	33.81	125.91	-726.92	1,373.46	1,199.18	1,166.65	32.53	36.859	
6,800.00	6,746.11	7,054.49	6,746.11	16.36	33.91	125.91	-726.92	1,373.46	1,199.18	1,166.27	32.91	36.436	
6,900.00	6,846.11	7,154.49	6,846.11	16.56	34.00	125.91	-726.92	1,373.46	1,199.18	1,165.89	33.29	36.021	
7,000.00	6,946.11	7,254.49	6,946.11	16.76	34.09	125.91	-726.92	1,373.46	1,199.18	1,165.51	33.67	35.613	
7,100.00	7,046.11	7,354.49	7,046.11	16.96	34.19	125.91	-726.92	1,373.46	1,199.18	1,165.12	34.06	35.213	

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

Weatherford International Ltd.

Anticollision Report

Company:	ANADARKO PETROLEUM CORP.	**Local Co-ordinate Reference:**	Well NBU 1021-1O3AS
Project:	UINTAH COUNTY, UTAH (nad 27)	**TVD Reference:**	WELL @ 5235.00ft (Original Well Elev)
Reference Site:	NBU 1021-1O Pad	**MD Reference:**	WELL @ 5235.00ft (Original Well Elev)
Site Error:	0.00ft	**North Reference:**	True
Reference Well:	NBU 1021-1O3AS	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00ft	**Output errors are at**	2.00 sigma
Reference Wellbore	NBU 1021-1O3AS	**Database:**	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 11-19-09 RHS	**Offset TVD Reference:**	Offset Datum

Offset Design NBU 1021-1O Pad - NBU 1021-12A2BS - NBU 1021-12A2BS - PLAN #1 11-19-09 RHS

Offset Site Error: 0.00 ft

Survey Program: 0-MWD

Offset Well Error: 0.00 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
7,200.00	7,146.11	7,454.49	7,146.11	17.16	34.28	125.91	-726.92	1,373.46	1,199.18	1,164.74	34.44	34.820	
7,300.00	7,246.11	7,554.49	7,246.11	17.37	34.38	125.91	-726.92	1,373.46	1,199.18	1,164.36	34.82	34.435	
7,400.00	7,346.11	7,654.49	7,346.11	17.57	34.48	125.91	-726.92	1,373.46	1,199.18	1,163.97	35.21	34.056	
7,500.00	7,446.11	7,754.49	7,446.11	17.77	34.58	125.91	-726.92	1,373.46	1,199.18	1,163.58	35.60	33.685	
7,600.00	7,546.11	7,854.49	7,546.11	17.97	34.68	125.91	-726.92	1,373.46	1,199.18	1,163.19	35.99	33.320	
7,700.00	7,646.11	7,954.49	7,646.11	18.18	34.79	125.91	-726.92	1,373.46	1,199.18	1,162.80	36.38	32.962	
7,800.00	7,746.11	8,054.49	7,746.11	18.38	34.89	125.91	-726.92	1,373.46	1,199.18	1,162.41	36.77	32.611	
7,900.00	7,846.11	8,154.49	7,846.11	18.59	34.99	125.91	-726.92	1,373.46	1,199.18	1,162.01	37.17	32.265	
8,000.00	7,946.11	8,254.49	7,946.11	18.79	35.10	125.91	-726.92	1,373.46	1,199.18	1,161.62	37.56	31.927	
8,100.00	8,046.11	8,354.49	8,046.11	19.00	35.21	125.91	-726.92	1,373.46	1,199.18	1,161.22	37.96	31.594	
8,200.00	8,146.11	8,454.49	8,146.11	19.20	35.32	125.91	-726.92	1,373.46	1,199.18	1,160.83	38.35	31.267	
8,300.00	8,246.11	8,554.49	8,246.11	19.41	35.42	125.91	-726.92	1,373.46	1,199.18	1,160.43	38.75	30.946	
8,400.00	8,346.11	8,654.49	8,346.11	19.62	35.54	125.91	-726.92	1,373.46	1,199.18	1,160.03	39.15	30.630	
8,500.00	8,446.11	8,754.49	8,446.11	19.83	35.65	125.91	-726.92	1,373.46	1,199.18	1,159.63	39.55	30.321	
8,600.00	8,546.11	8,854.49	8,546.11	20.03	35.76	125.91	-726.92	1,373.46	1,199.18	1,159.23	39.95	30.016	
8,700.00	8,646.11	8,954.49	8,646.11	20.24	35.87	125.91	-726.92	1,373.46	1,199.18	1,158.83	40.35	29.717	
8,800.00	8,746.11	9,054.49	8,746.11	20.45	35.99	125.91	-726.92	1,373.46	1,199.18	1,158.42	40.76	29.423	
8,900.00	8,846.11	9,154.49	8,846.11	20.66	36.10	125.91	-726.92	1,373.46	1,199.18	1,158.02	41.16	29.135	
9,000.00	8,946.11	9,254.49	8,946.11	20.87	36.22	125.91	-726.92	1,373.46	1,199.18	1,157.62	41.56	28.851	
9,100.00	9,046.11	9,354.49	9,046.11	21.08	36.34	125.91	-726.92	1,373.46	1,199.18	1,157.21	41.97	28.572	
9,200.00	9,146.11	9,454.49	9,146.11	21.29	36.46	125.91	-726.92	1,373.46	1,199.18	1,156.80	42.38	28.298	
9,300.00	9,246.11	9,554.49	9,246.11	21.50	36.58	125.91	-726.92	1,373.46	1,199.18	1,156.40	42.78	28.029	
9,400.00	9,346.11	9,654.49	9,346.11	21.71	36.70	125.91	-726.92	1,373.46	1,199.18	1,155.99	43.19	27.764	
9,415.09	9,361.19	9,669.57	9,361.19	21.74	36.71	125.91	-726.92	1,373.46	1,199.18	1,155.93	43.25	27.724	
9,476.89	9,423.00	9,686.38	9,378.00	21.87	36.74	125.91	-726.92	1,373.46	1,200.02	1,156.60	43.42	27.637	

Weatherford International Ltd.

Anticollision Report

Company:	ANADARKO PETROLEUM CORP.	**Local Co-ordinate Reference:**	Well NBU 1021-1O3AS
Project:	UINTAH COUNTY, UTAH (nad 27)	**TVD Reference:**	WELL @ 5235.00ft (Original Well Elev)
Reference Site:	NBU 1021-1O Pad	**MD Reference:**	WELL @ 5235.00ft (Original Well Elev)
Site Error:	0.00ft	**North Reference:**	True
Reference Well:	NBU 1021-1O3AS	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00ft	**Output errors are at**	2.00 sigma
Reference Wellbore	NBU 1021-1O3AS	**Database:**	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 11-19-09 RHS	**Offset TVD Reference:**	Offset Datum

Offset Design NBU 1021-1O Pad - NBU 1021-12B3DS - NBU 1021-12B3DS - PLAN #1 11-19-09 RHS — **Offset Site Error:** 0.00 ft

Survey Program: 0-MWD — **Offset Well Error:** 0.00 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
0.00	0.00	0.00	0.00	0.00	0.00	162.74	-18.94	5.88	19.83				
100.00	100.00	100.00	100.00	0.10	0.10	162.74	-18.94	5.88	19.83	19.64	0.19	102.597	
200.00	200.00	200.00	200.00	0.32	0.32	162.74	-18.94	5.88	19.83	19.19	0.64	30.851	
300.00	300.00	300.00	300.00	0.55	0.55	162.74	-18.94	5.88	19.83	18.74	1.09	18.155	
400.00	400.00	400.00	400.00	0.77	0.77	162.74	-18.94	5.88	19.83	18.29	1.54	12.862	
500.00	500.00	500.00	500.00	1.00	1.00	162.74	-18.94	5.88	19.83	17.84	1.99	9.959	
600.00	600.00	600.00	600.00	1.22	1.22	162.74	-18.94	5.88	19.83	17.39	2.44	8.125	
700.00	700.00	700.00	700.00	1.45	1.45	162.74	-18.94	5.88	19.83	16.94	2.89	6.861	
800.00	800.00	800.00	800.00	1.67	1.67	162.74	-18.94	5.88	19.83	16.49	3.34	5.938	
900.00	900.00	900.00	900.00	1.89	1.89	162.74	-18.94	5.88	19.83	16.04	3.79	5.233	
1,000.00	1,000.00	1,000.00	1,000.00	2.12	2.12	162.74	-18.94	5.88	19.83	15.59	4.24	4.678	
1,100.00	1,100.00	1,100.00	1,100.00	2.34	2.34	162.74	-18.94	5.88	19.83	15.14	4.69	4.230	
1,200.00	1,200.00	1,200.00	1,200.00	2.57	2.57	162.74	-18.94	5.88	19.83	14.69	5.14	3.860	
1,300.00	1,300.00	1,300.00	1,300.00	2.79	2.79	162.74	-18.94	5.88	19.83	14.24	5.59	3.549	
1,400.00	1,400.00	1,400.00	1,400.00	3.02	3.02	162.74	-18.94	5.88	19.83	13.79	6.04	3.285	
1,500.00	1,500.00	1,500.00	1,500.00	3.24	3.24	162.74	-18.94	5.88	19.83	13.35	6.49	3.057	
1,600.00	1,600.00	1,600.00	1,600.00	3.47	3.47	162.74	-18.94	5.88	19.83	12.90	6.94	2.859	
1,700.00	1,700.00	1,700.00	1,700.00	3.69	3.69	162.74	-18.94	5.88	19.83	12.45	7.39	2.685	
1,800.00	1,800.00	1,800.00	1,800.00	3.92	3.92	162.74	-18.94	5.88	19.83	12.00	7.84	2.531	
1,900.00	1,900.00	1,900.00	1,900.00	4.14	4.14	162.74	-18.94	5.88	19.83	11.55	8.28	2.394	
2,000.00	2,000.00	2,000.00	2,000.00	4.37	4.37	162.74	-18.94	5.88	19.83	11.10	8.73	2.271	
2,100.00	2,100.00	2,100.00	2,100.00	4.59	4.59	162.74	-18.94	5.88	19.83	10.65	9.18	2.159	
2,200.00	2,200.00	2,200.00	2,200.00	4.82	4.82	162.74	-18.94	5.88	19.83	10.20	9.63	2.059	
2,250.24	2,250.24	2,250.24	2,250.24	4.93	4.93	162.74	-18.94	5.88	19.83	9.97	9.86	2.011	CC, ES
2,302.00	2,302.00	2,301.64	2,301.64	5.05	5.03	162.89	-19.25	5.92	20.14	10.06	10.08	1.998	SF
2,400.00	2,399.96	2,398.43	2,398.33	5.25	5.20	76.84	-23.42	6.45	23.66	13.21	10.45	2.264	
2,500.00	2,499.65	2,496.41	2,495.85	5.46	5.37	90.62	-32.59	7.61	32.32	21.49	10.83	2.985	
2,600.00	2,598.79	2,592.96	2,591.38	5.67	5.55	102.12	-46.47	9.36	47.75	36.53	11.22	4.255	
2,700.00	2,697.13	2,687.52	2,684.13	5.91	5.75	109.51	-64.69	11.66	70.15	58.52	11.63	6.032	
2,800.00	2,794.38	2,779.59	2,773.45	6.19	5.98	113.96	-86.78	14.44	99.12	87.05	12.07	8.213	
2,900.00	2,890.28	2,868.73	2,858.82	6.53	6.25	116.62	-112.21	17.65	134.23	121.68	12.55	10.693	
2,968.50	2,955.06	2,927.91	2,914.80	6.80	6.46	117.76	-131.27	20.06	161.62	148.70	12.92	12.510	
3,000.00	2,984.65	2,954.65	2,939.89	6.93	6.55	118.47	-140.44	21.21	174.97	161.87	13.11	13.349	
3,100.00	3,078.63	3,044.38	3,023.78	7.39	6.93	120.06	-172.03	25.20	218.11	204.35	13.76	15.851	
3,200.00	3,172.60	3,134.46	3,107.99	7.89	7.34	121.14	-203.74	29.20	261.35	246.89	14.46	18.074	
3,304.89	3,271.17	3,228.94	3,196.33	8.45	7.81	121.94	-237.01	33.40	306.76	291.51	15.25	20.118	
3,400.00	3,361.07	3,315.01	3,276.79	8.92	8.26	122.99	-267.32	37.22	347.20	331.22	15.98	21.726	
3,500.00	3,456.65	3,406.27	3,362.12	9.34	8.76	123.53	-299.45	41.28	388.03	371.31	16.73	23.196	
3,600.00	3,553.19	3,498.23	3,448.08	9.75	9.28	123.64	-331.83	45.36	427.12	409.64	17.49	24.425	
3,700.00	3,650.59	3,590.76	3,534.59	10.13	9.82	123.43	-364.41	49.47	464.49	446.25	18.24	25.460	
3,800.00	3,748.71	3,683.75	3,621.53	10.48	10.37	122.96	-397.15	53.61	500.20	481.21	18.99	26.346	
3,900.00	3,847.45	3,777.09	3,708.79	10.80	10.95	122.27	-430.02	57.75	534.33	514.62	19.70	27.118	
4,000.00	3,946.68	3,870.66	3,796.27	11.08	11.53	121.41	-462.97	61.91	566.98	546.59	20.39	27.807	
4,100.00	4,046.28	3,964.35	3,883.87	11.32	12.12	120.39	-495.96	66.07	598.27	577.24	21.04	28.440	
4,200.00	4,146.13	4,058.05	3,971.47	11.53	12.72	119.23	-528.95	70.23	628.35	606.71	21.64	29.037	
4,304.64	4,250.75	4,155.99	4,063.03	11.71	13.35	-148.75	-563.43	74.59	658.69	636.48	22.21	29.656	
4,400.00	4,346.11	4,245.14	4,146.37	11.86	13.93	-150.47	-594.83	78.55	686.16	663.48	22.68	30.255	
4,500.00	4,446.11	4,338.63	4,233.78	12.03	14.55	-152.13	-627.74	82.70	715.56	692.39	23.17	30.879	
4,600.00	4,546.11	4,432.12	4,321.18	12.21	15.17	-153.67	-660.66	86.85	745.49	721.83	23.66	31.514	
4,700.00	4,646.11	4,525.61	4,408.59	12.38	15.79	-155.09	-693.58	91.01	775.89	751.75	24.13	32.153	
4,800.00	4,746.11	4,619.10	4,495.99	12.56	16.42	-156.41	-726.50	95.16	806.70	782.10	24.60	32.793	
4,900.00	4,846.11	4,712.59	4,583.39	12.74	17.05	-157.63	-759.42	99.31	837.88	812.82	25.06	33.431	

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

Company:	ANADARKO PETROLEUM CORP.	**Local Co-ordinate Reference:**	Well NBU 1021-1O3AS
Project:	UINTAH COUNTY, UTAH (nad 27)	**TVD Reference:**	WELL @ 5235.00ft (Original Well Elev)
Reference Site:	NBU 1021-1O Pad	**MD Reference:**	WELL @ 5235.00ft (Original Well Elev)
Site Error:	0.00ft	**North Reference:**	True
Reference Well:	NBU 1021-1O3AS	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00ft	**Output errors are at**	2.00 sigma
Reference Wellbore	NBU 1021-1O3AS	**Database:**	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 11-19-09 RHS	**Offset TVD Reference:**	Offset Datum

Offset Design NBU 1021-1O Pad - NBU 1021-12B3DS - NBU 1021-12B3DS - PLAN #1 11-19-09 RHS

Offset Site Error: 0.00 ft
Survey Program: 0-MWD
Offset Well Error: 0.00 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
5,000.00	4,946.11	4,806.08	4,670.80	12.92	17.68	-158.77	-792.34	103.47	869.39	843.87	25.52	34.064	
5,100.00	5,046.11	4,899.57	4,758.20	13.10	18.31	-159.83	-825.26	107.62	901.20	875.22	25.98	34.690	
5,200.00	5,146.11	4,993.06	4,845.61	13.29	18.95	-160.82	-858.18	111.77	933.28	906.85	26.43	35.307	
5,300.00	5,246.11	5,086.55	4,933.01	13.47	19.59	-161.74	-891.09	115.93	965.59	938.71	26.89	35.915	
5,400.00	5,346.11	5,180.04	5,020.42	13.66	20.23	-162.61	-924.01	120.08	998.12	970.78	27.34	36.511	
5,500.00	5,446.11	5,273.53	5,107.82	13.84	20.87	-163.42	-956.93	124.23	1,030.85	1,003.06	27.79	37.095	
5,600.00	5,546.11	5,367.02	5,195.23	14.03	21.52	-164.18	-989.85	128.39	1,063.75	1,035.51	28.24	37.667	
5,700.00	5,646.11	5,460.51	5,282.63	14.22	22.16	-164.90	-1,022.77	132.54	1,096.81	1,068.12	28.69	38.227	
5,800.00	5,746.11	5,554.00	5,370.04	14.41	22.81	-165.58	-1,055.69	136.69	1,130.02	1,100.88	29.14	38.773	
5,900.00	5,846.11	5,647.49	5,457.44	14.60	23.45	-166.21	-1,088.61	140.85	1,163.37	1,133.77	29.60	39.306	
6,000.00	5,946.11	5,740.98	5,544.84	14.80	24.10	-166.82	-1,121.53	145.00	1,196.84	1,166.79	30.05	39.827	
6,100.00	6,046.11	5,834.47	5,632.25	14.99	24.75	-167.39	-1,154.45	149.15	1,230.42	1,199.91	30.51	40.334	
6,200.00	6,146.11	5,927.96	5,719.65	15.18	25.40	-167.93	-1,187.36	153.31	1,264.10	1,233.14	30.96	40.828	
6,300.00	6,246.11	6,021.45	5,807.06	15.38	26.05	-168.44	-1,220.28	157.46	1,297.89	1,266.47	31.42	41.309	
6,400.00	6,346.11	6,114.94	5,894.46	15.57	26.70	-168.93	-1,253.20	161.62	1,331.76	1,299.88	31.88	41.778	
6,500.00	6,446.11	6,208.44	5,981.87	15.77	27.36	-169.40	-1,286.12	165.77	1,365.71	1,333.38	32.34	42.234	
6,600.00	6,546.11	6,301.93	6,069.27	15.97	28.01	-169.84	-1,319.04	169.92	1,399.74	1,366.94	32.80	42.678	
6,700.00	6,646.11	6,395.42	6,156.68	16.17	28.66	-170.26	-1,351.96	174.08	1,433.84	1,400.58	33.26	43.110	
6,800.00	6,746.11	6,539.77	6,292.27	16.36	29.52	-170.85	-1,401.06	180.27	1,467.10	1,433.26	33.84	43.355	
6,900.00	6,846.11	6,730.68	6,474.98	16.56	30.38	-171.46	-1,455.85	187.18	1,495.02	1,460.52	34.50	43.339	
7,000.00	6,946.11	6,928.60	6,667.85	16.76	31.12	-171.93	-1,499.78	192.73	1,516.63	1,481.49	35.14	43.157	
7,100.00	7,046.11	7,131.95	6,868.70	16.96	31.70	-172.24	-1,531.04	196.67	1,531.61	1,495.85	35.76	42.827	
7,200.00	7,146.11	7,338.83	7,074.81	17.16	32.11	-172.40	-1,548.26	198.84	1,539.73	1,503.39	36.34	42.366	
7,300.00	7,246.11	7,510.19	7,246.11	17.37	32.31	-172.44	-1,551.52	199.25	1,541.26	1,504.43	36.83	41.852	
7,400.00	7,346.11	7,610.19	7,346.11	17.57	32.41	-172.44	-1,551.52	199.25	1,541.26	1,504.08	37.18	41.449	
7,500.00	7,446.11	7,710.19	7,446.11	17.77	32.50	-172.44	-1,551.52	199.25	1,541.26	1,503.72	37.54	41.052	
7,600.00	7,546.11	7,810.19	7,546.11	17.97	32.59	-172.44	-1,551.52	199.25	1,541.26	1,503.35	37.91	40.660	
7,700.00	7,646.11	7,910.19	7,646.11	18.18	32.69	-172.44	-1,551.52	199.25	1,541.26	1,502.99	38.27	40.273	
7,800.00	7,746.11	8,010.19	7,746.11	18.38	32.79	-172.44	-1,551.52	199.25	1,541.26	1,502.62	38.64	39.892	
7,900.00	7,846.11	8,110.19	7,846.11	18.59	32.88	-172.44	-1,551.52	199.25	1,541.26	1,502.26	39.00	39.517	
8,000.00	7,946.11	8,210.19	7,946.11	18.79	32.98	-172.44	-1,551.52	199.25	1,541.26	1,501.89	39.37	39.147	
8,100.00	8,046.11	8,310.19	8,046.11	19.00	33.08	-172.44	-1,551.52	199.25	1,541.26	1,501.52	39.74	38.782	
8,200.00	8,146.11	8,410.19	8,146.11	19.20	33.19	-172.44	-1,551.52	199.25	1,541.26	1,501.15	40.11	38.423	
8,300.00	8,246.11	8,510.19	8,246.11	19.41	33.29	-172.44	-1,551.52	199.25	1,541.26	1,500.77	40.49	38.069	
8,400.00	8,346.11	8,610.19	8,346.11	19.62	33.39	-172.44	-1,551.52	199.25	1,541.26	1,500.40	40.86	37.719	
8,500.00	8,446.11	8,710.19	8,446.11	19.83	33.50	-172.44	-1,551.52	199.25	1,541.26	1,500.02	41.24	37.375	
8,600.00	8,546.11	8,810.19	8,546.11	20.03	33.60	-172.44	-1,551.52	199.25	1,541.26	1,499.64	41.62	37.036	
8,700.00	8,646.11	8,910.19	8,646.11	20.24	33.71	-172.44	-1,551.52	199.25	1,541.26	1,499.27	41.99	36.702	
8,800.00	8,746.11	9,010.19	8,746.11	20.45	33.82	-172.44	-1,551.52	199.25	1,541.26	1,498.89	42.37	36.372	
8,900.00	8,846.11	9,110.19	8,846.11	20.66	33.93	-172.44	-1,551.52	199.25	1,541.26	1,498.50	42.76	36.048	
9,000.00	8,946.11	9,210.19	8,946.11	20.87	34.04	-172.44	-1,551.52	199.25	1,541.26	1,498.12	43.14	35.728	
9,100.00	9,046.11	9,310.19	9,046.11	21.08	34.15	-172.44	-1,551.52	199.25	1,541.26	1,497.74	43.52	35.413	
9,200.00	9,146.11	9,410.19	9,146.11	21.29	34.27	-172.44	-1,551.52	199.25	1,541.26	1,497.35	43.91	35.102	
9,300.00	9,246.11	9,510.19	9,246.11	21.50	34.38	-172.44	-1,551.52	199.25	1,541.26	1,496.97	44.29	34.796	
9,400.00	9,346.11	9,610.19	9,346.11	21.71	34.50	-172.44	-1,551.52	199.25	1,541.26	1,496.58	44.68	34.494	
9,433.95	9,380.05	9,644.14	9,380.05	21.78	34.54	-172.44	-1,551.52	199.25	1,541.26	1,496.45	44.81	34.392	
9,476.89	9,423.00	9,656.08	9,392.00	21.87	34.55	-172.44	-1,551.52	199.25	1,541.57	1,496.65	44.93	34.314	

Weatherford International Ltd.

Anticollision Report

Company:	ANADARKO PETROLEUM CORP.	**Local Co-ordinate Reference:**	Well NBU 1021-1O3AS
Project:	UINTAH COUNTY, UTAH (nad 27)	**TVD Reference:**	WELL @ 5235.00ft (Original Well Elev)
Reference Site:	NBU 1021-1O Pad	**MD Reference:**	WELL @ 5235.00ft (Original Well Elev)
Site Error:	0.00ft	**North Reference:**	True
Reference Well:	NBU 1021-1O3AS	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00ft	**Output errors are at**	2.00 sigma
Reference Wellbore	NBU 1021-1O3AS	**Database:**	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 11-19-09 RHS	**Offset TVD Reference:**	Offset Datum

Offset Design NBU 1021-1O Pad - NBU 1021-12B4BS - NBU 1021-12B4BS - PLAN #1 11-19-09 RHS — **Offset Site Error:** 0.00 ft

Survey Program: 0-MWD — **Offset Well Error:** 0.00 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
0.00	0.00	0.00	0.00	0.00	0.00	162.33	-57.18	18.22	60.01				
100.00	100.00	100.00	100.00	0.10	0.10	162.33	-57.18	18.22	60.01	59.82	0.19	310.460	
200.00	200.00	200.00	200.00	0.32	0.32	162.33	-57.18	18.22	60.01	59.37	0.64	93.355	
300.00	300.00	300.00	300.00	0.55	0.55	162.33	-57.18	18.22	60.01	58.92	1.09	54.937	
400.00	400.00	400.00	400.00	0.77	0.77	162.33	-57.18	18.22	60.01	58.47	1.54	38.921	
500.00	500.00	500.00	500.00	1.00	1.00	162.33	-57.18	18.22	60.01	58.02	1.99	30.135	
600.00	600.00	600.00	600.00	1.22	1.22	162.33	-57.18	18.22	60.01	57.57	2.44	24.585	
700.00	700.00	700.00	700.00	1.45	1.45	162.33	-57.18	18.22	60.01	57.12	2.89	20.762	
800.00	800.00	800.00	800.00	1.67	1.67	162.33	-57.18	18.22	60.01	56.67	3.34	17.967	
900.00	900.00	900.00	900.00	1.89	1.89	162.33	-57.18	18.22	60.01	56.22	3.79	15.836	
1,000.00	1,000.00	1,000.00	1,000.00	2.12	2.12	162.33	-57.18	18.22	60.01	55.77	4.24	14.157	
1,100.00	1,100.00	1,100.00	1,100.00	2.34	2.34	162.33	-57.18	18.22	60.01	55.32	4.69	12.799	
1,200.00	1,200.00	1,200.00	1,200.00	2.57	2.57	162.33	-57.18	18.22	60.01	54.87	5.14	11.680	
1,300.00	1,300.00	1,300.00	1,300.00	2.79	2.79	162.33	-57.18	18.22	60.01	54.42	5.59	10.740	
1,400.00	1,400.00	1,400.00	1,400.00	3.02	3.02	162.33	-57.18	18.22	60.01	53.97	6.04	9.940	
1,500.00	1,500.00	1,500.00	1,500.00	3.24	3.24	162.33	-57.18	18.22	60.01	53.52	6.49	9.251	
1,600.00	1,600.00	1,600.00	1,600.00	3.47	3.47	162.33	-57.18	18.22	60.01	53.08	6.94	8.652	
1,700.00	1,700.00	1,700.00	1,700.00	3.69	3.69	162.33	-57.18	18.22	60.01	52.63	7.39	8.125	
1,800.00	1,800.00	1,800.00	1,800.00	3.92	3.92	162.33	-57.18	18.22	60.01	52.18	7.84	7.659	
1,900.00	1,900.00	1,900.00	1,900.00	4.14	4.14	162.33	-57.18	18.22	60.01	51.73	8.28	7.244	
2,000.00	2,000.00	2,000.00	2,000.00	4.37	4.37	162.33	-57.18	18.22	60.01	51.28	8.73	6.871	
2,100.00	2,100.00	2,100.00	2,100.00	4.59	4.59	162.33	-57.18	18.22	60.01	50.83	9.18	6.534	
2,200.00	2,200.00	2,200.00	2,200.00	4.82	4.82	162.33	-57.18	18.22	60.01	50.38	9.63	6.229	
2,262.54	2,262.54	2,262.54	2,262.54	4.96	4.96	162.33	-57.18	18.22	60.01	50.10	9.91	6.053	CC, ES
2,302.00	2,302.00	2,300.00	2,300.00	5.05	5.03	162.29	-57.36	18.31	60.25	50.17	10.08	5.977	SF
2,400.00	2,399.96	2,396.04	2,395.96	5.25	5.20	70.22	-60.70	20.17	63.20	52.75	10.45	6.047	
2,500.00	2,499.65	2,492.47	2,491.99	5.46	5.38	74.28	-68.30	24.38	69.58	58.75	10.82	6.428	
2,600.00	2,598.79	2,588.12	2,586.68	5.67	5.56	79.80	-80.01	30.87	79.95	68.72	11.22	7.124	
2,700.00	2,697.13	2,682.66	2,679.50	5.91	5.77	85.50	-95.64	39.54	94.88	83.23	11.66	8.140	
2,800.00	2,794.38	2,775.80	2,769.98	6.19	6.01	90.56	-114.96	50.25	114.69	102.55	12.15	9.442	
2,900.00	2,890.28	2,867.28	2,857.69	6.53	6.29	94.67	-137.66	62.84	139.40	126.69	12.71	10.966	
2,968.50	2,955.06	2,928.87	2,916.00	6.80	6.51	96.93	-155.00	72.45	159.07	145.92	13.15	12.097	
3,000.00	2,984.65	2,958.07	2,943.44	6.93	6.62	98.12	-163.71	77.28	168.75	155.38	13.37	12.620	
3,100.00	3,078.63	3,052.63	3,032.30	7.39	7.03	101.17	-192.00	92.96	199.89	185.76	14.12	14.154	
3,200.00	3,172.60	3,147.20	3,121.17	7.89	7.47	103.41	-220.29	108.65	231.40	216.47	14.94	15.493	
3,304.89	3,271.17	3,246.39	3,214.38	8.45	7.97	105.18	-249.96	125.10	264.72	248.87	15.85	16.700	
3,400.00	3,361.07	3,336.55	3,299.10	8.92	8.45	106.74	-276.92	140.05	294.66	277.99	16.67	17.671	
3,500.00	3,456.65	3,431.75	3,388.56	9.34	8.97	107.56	-305.40	155.84	325.24	307.74	17.50	18.583	
3,600.00	3,553.19	3,527.24	3,478.29	9.75	9.52	107.77	-333.96	171.67	354.83	336.50	18.33	19.356	
3,700.00	3,650.59	3,622.91	3,568.20	10.13	10.08	107.49	-362.58	187.54	383.45	364.30	19.15	20.027	
3,800.00	3,748.71	3,718.65	3,658.16	10.48	10.66	106.83	-391.21	203.41	411.18	391.24	19.93	20.627	
3,900.00	3,847.45	3,814.32	3,748.06	10.80	11.25	105.86	-419.83	219.28	438.16	417.47	20.68	21.185	
4,000.00	3,946.68	3,909.83	3,837.81	11.08	11.84	104.64	-448.40	235.12	464.55	443.17	21.38	21.726	
4,100.00	4,046.28	4,005.05	3,927.29	11.32	12.45	103.20	-476.88	250.91	490.57	468.54	22.03	22.272	
4,200.00	4,146.13	4,099.87	4,016.39	11.53	13.05	101.59	-505.24	266.64	516.42	493.82	22.61	22.842	
4,304.64	4,250.75	4,198.53	4,109.10	11.71	13.69	-166.88	-534.75	283.00	543.56	520.42	23.14	23.490	
4,400.00	4,346.11	4,288.13	4,193.30	11.86	14.28	-169.03	-561.55	297.86	568.80	545.25	23.55	24.148	
4,500.00	4,446.11	4,382.10	4,281.61	12.03	14.90	-171.09	-589.66	313.44	596.04	572.05	23.99	24.846	
4,600.00	4,546.11	4,476.07	4,369.91	12.21	15.52	-172.98	-617.76	329.02	623.97	599.55	24.41	25.558	
4,700.00	4,646.11	4,570.04	4,458.21	12.38	16.14	-174.72	-645.87	344.61	652.49	627.66	24.83	26.277	
4,800.00	4,746.11	4,664.01	4,546.52	12.56	16.77	-176.31	-673.98	360.19	681.54	656.30	25.24	26.999	
4,900.00	4,846.11	4,757.98	4,634.82	12.74	17.41	-177.78	-702.08	375.78	711.04	685.39	25.65	27.719	

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

Company:	ANADARKO PETROLEUM CORP.	**Local Co-ordinate Reference:**	Well NBU 1021-1O3AS
Project:	UINTAH COUNTY, UTAH (nad 27)	**TVD Reference:**	WELL @ 5235.00ft (Original Well Elev)
Reference Site:	NBU 1021-1O Pad	**MD Reference:**	WELL @ 5235.00ft (Original Well Elev)
Site Error:	0.00ft	**North Reference:**	True
Reference Well:	NBU 1021-1O3AS	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00ft	**Output errors are at**	2.00 sigma
Reference Wellbore	NBU 1021-1O3AS	**Database:**	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 11-19-09 RHS	**Offset TVD Reference:**	Offset Datum

Offset Design NBU 1021-1O Pad - NBU 1021-12B4BS - NBU 1021-12B4BS - PLAN #1 11-19-09 RHS — **Offset Site Error:** 0.00 ft

Survey Program: 0-MWD — **Offset Well Error:** 0.00 ft

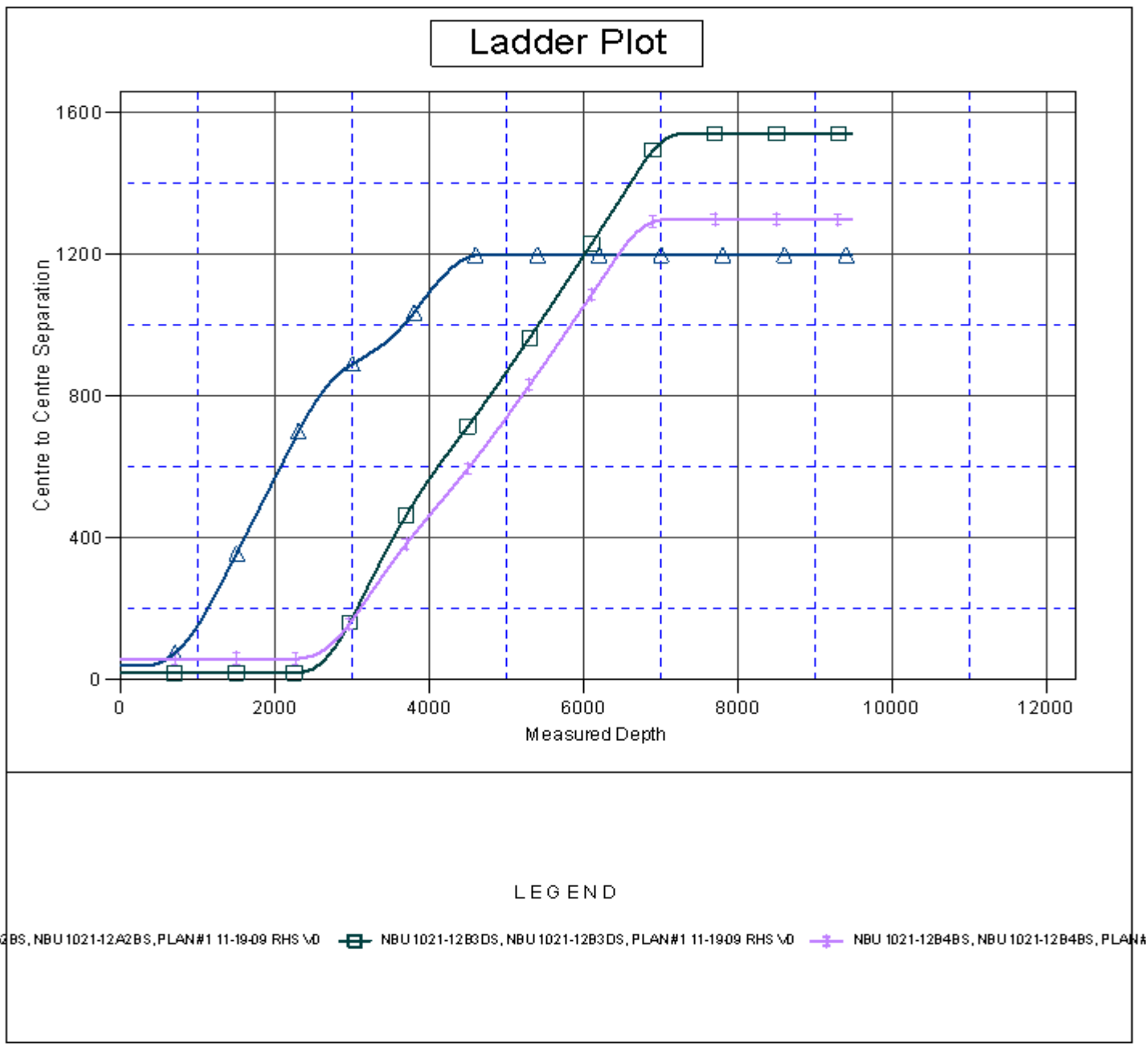
Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
5,000.00	4,946.11	4,851.95	4,723.12	12.92	18.04	-179.13	-730.19	391.36	740.95	714.89	26.06	28.433	
5,100.00	5,046.11	4,945.92	4,811.43	13.10	18.68	179.62	-758.30	406.94	771.22	744.75	26.47	29.139	
5,200.00	5,146.11	5,039.89	4,899.73	13.29	19.31	178.47	-786.41	422.53	801.80	774.93	26.87	29.835	
5,300.00	5,246.11	5,133.86	4,988.03	13.47	19.95	177.40	-814.51	438.11	832.66	805.38	27.28	30.520	
5,400.00	5,346.11	5,227.83	5,076.33	13.66	20.60	176.40	-842.62	453.69	863.78	836.09	27.69	31.191	
5,500.00	5,446.11	5,321.80	5,164.64	13.84	21.24	175.47	-870.73	469.28	895.12	867.01	28.11	31.848	
5,600.00	5,546.11	5,415.77	5,252.94	14.03	21.88	174.60	-898.83	484.86	926.66	898.14	28.52	32.491	
5,700.00	5,646.11	5,509.74	5,341.24	14.22	22.53	173.79	-926.94	500.45	958.39	929.45	28.94	33.118	
5,800.00	5,746.11	5,603.71	5,429.55	14.41	23.18	173.03	-955.05	516.03	990.28	960.92	29.36	33.731	
5,900.00	5,846.11	5,697.68	5,517.85	14.60	23.82	172.31	-983.15	531.61	1,022.31	992.53	29.78	34.328	
6,000.00	5,946.11	5,791.65	5,606.15	14.80	24.47	171.64	-1,011.26	547.20	1,054.49	1,024.28	30.21	34.909	
6,100.00	6,046.11	5,885.62	5,694.46	14.99	25.12	171.01	-1,039.37	562.78	1,086.79	1,056.15	30.64	35.475	
6,200.00	6,146.11	5,979.59	5,782.76	15.18	25.77	170.42	-1,067.48	578.36	1,119.20	1,088.13	31.07	36.026	
6,300.00	6,246.11	6,073.56	5,871.06	15.38	26.42	169.85	-1,095.58	593.95	1,151.71	1,120.21	31.50	36.562	
6,400.00	6,346.11	6,167.53	5,959.37	15.57	27.08	169.32	-1,123.69	609.53	1,184.32	1,152.39	31.94	37.083	
6,500.00	6,446.11	6,296.81	6,081.29	15.77	27.89	168.66	-1,161.27	630.37	1,216.27	1,183.82	32.45	37.481	
6,600.00	6,546.11	6,459.61	6,237.26	15.97	28.64	167.98	-1,202.02	652.96	1,243.71	1,210.71	33.00	37.683	
6,700.00	6,646.11	6,627.52	6,400.62	16.17	29.30	167.46	-1,235.87	671.73	1,265.85	1,232.29	33.56	37.718	
6,800.00	6,746.11	6,799.59	6,570.09	16.36	29.84	167.08	-1,261.81	686.11	1,282.42	1,248.31	34.11	37.597	
6,900.00	6,846.11	6,974.69	6,744.05	16.56	30.25	166.84	-1,279.02	695.65	1,293.24	1,258.61	34.64	37.337	
7,000.00	6,946.11	7,151.56	6,920.66	16.76	30.53	166.73	-1,286.94	700.05	1,298.17	1,263.03	35.14	36.942	
7,100.00	7,046.11	7,277.01	7,046.11	16.96	30.67	166.72	-1,287.46	700.33	1,298.50	1,262.95	35.54	36.531	
7,200.00	7,146.11	7,377.01	7,146.11	17.16	30.77	166.72	-1,287.46	700.33	1,298.50	1,262.59	35.91	36.162	
7,300.00	7,246.11	7,477.01	7,246.11	17.37	30.87	166.72	-1,287.46	700.33	1,298.50	1,262.22	36.27	35.798	
7,400.00	7,346.11	7,577.01	7,346.11	17.57	30.97	166.72	-1,287.46	700.33	1,298.50	1,261.86	36.64	35.439	
7,500.00	7,446.11	7,677.01	7,446.11	17.77	31.07	166.72	-1,287.46	700.33	1,298.50	1,261.49	37.01	35.086	
7,600.00	7,546.11	7,777.01	7,546.11	17.97	31.17	166.72	-1,287.46	700.33	1,298.50	1,261.12	37.38	34.738	
7,700.00	7,646.11	7,877.01	7,646.11	18.18	31.28	166.72	-1,287.46	700.33	1,298.50	1,260.74	37.75	34.396	
7,800.00	7,746.11	7,977.01	7,746.11	18.38	31.38	166.72	-1,287.46	700.33	1,298.50	1,260.37	38.13	34.059	
7,900.00	7,846.11	8,077.01	7,846.11	18.59	31.49	166.72	-1,287.46	700.33	1,298.50	1,260.00	38.50	33.727	
8,000.00	7,946.11	8,177.01	7,946.11	18.79	31.60	166.72	-1,287.46	700.33	1,298.50	1,259.62	38.88	33.400	
8,100.00	8,046.11	8,277.01	8,046.11	19.00	31.71	166.72	-1,287.46	700.33	1,298.50	1,259.24	39.26	33.078	
8,200.00	8,146.11	8,377.01	8,146.11	19.20	31.82	166.72	-1,287.46	700.33	1,298.50	1,258.86	39.64	32.761	
8,300.00	8,246.11	8,477.01	8,246.11	19.41	31.93	166.72	-1,287.46	700.33	1,298.50	1,258.48	40.02	32.449	
8,400.00	8,346.11	8,577.01	8,346.11	19.62	32.04	166.72	-1,287.46	700.33	1,298.50	1,258.10	40.40	32.142	
8,500.00	8,446.11	8,677.01	8,446.11	19.83	32.16	166.72	-1,287.46	700.33	1,298.50	1,257.71	40.78	31.840	
8,600.00	8,546.11	8,777.01	8,546.11	20.03	32.27	166.72	-1,287.46	700.33	1,298.50	1,257.33	41.17	31.542	
8,700.00	8,646.11	8,877.01	8,646.11	20.24	32.39	166.72	-1,287.46	700.33	1,298.50	1,256.94	41.55	31.249	
8,800.00	8,746.11	8,977.01	8,746.11	20.45	32.50	166.72	-1,287.46	700.33	1,298.50	1,256.55	41.94	30.960	
8,900.00	8,846.11	9,077.01	8,846.11	20.66	32.62	166.72	-1,287.46	700.33	1,298.50	1,256.17	42.33	30.676	
9,000.00	8,946.11	9,177.01	8,946.11	20.87	32.74	166.72	-1,287.46	700.33	1,298.50	1,255.78	42.72	30.396	
9,100.00	9,046.11	9,277.01	9,046.11	21.08	32.86	166.72	-1,287.46	700.33	1,298.50	1,255.39	43.11	30.120	
9,200.00	9,146.11	9,377.01	9,146.11	21.29	32.99	166.72	-1,287.46	700.33	1,298.50	1,254.99	43.50	29.848	
9,300.00	9,246.11	9,477.01	9,246.11	21.50	33.11	166.72	-1,287.46	700.33	1,298.50	1,254.60	43.90	29.581	
9,400.00	9,346.11	9,577.01	9,346.11	21.71	33.23	166.72	-1,287.46	700.33	1,298.50	1,254.21	44.29	29.318	
9,426.22	9,372.32	9,603.23	9,372.32	21.76	33.27	166.72	-1,287.46	700.33	1,298.50	1,254.10	44.39	29.250	
9,476.89	9,423.00	9,615.90	9,385.00	21.87	33.28	166.72	-1,287.46	700.33	1,299.05	1,254.53	44.52	29.176	

Weatherford International Ltd.

Anticollision Report

Company:	ANADARKO PETROLEUM CORP.	**Local Co-ordinate Reference:**	Well NBU 1021-1O3AS
Project:	UINTAH COUNTY, UTAH (nad 27)	**TVD Reference:**	WELL @ 5235.00ft (Original Well Elev)
Reference Site:	NBU 1021-1O Pad	**MD Reference:**	WELL @ 5235.00ft (Original Well Elev)
Site Error:	0.00ft	**North Reference:**	True
Reference Well:	NBU 1021-1O3AS	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00ft	**Output errors are at**	2.00 sigma
Reference Wellbore	NBU 1021-1O3AS	**Database:**	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 11-19-09 RHS	**Offset TVD Reference:**	Offset Datum

Reference Depths are relative to WELL @ 5235.00ft (Original Well Ele\Coordinates are relative to: NBU 1021-1O3AS
Offset Depths are relative to Offset Datum
Coordinate System is Universal Transverse Mercator (US Survey Feet), Zone 12N
Central Meridian is 111° 0' 0.000 W °
Grid Convergence at Surface is: 0.96°

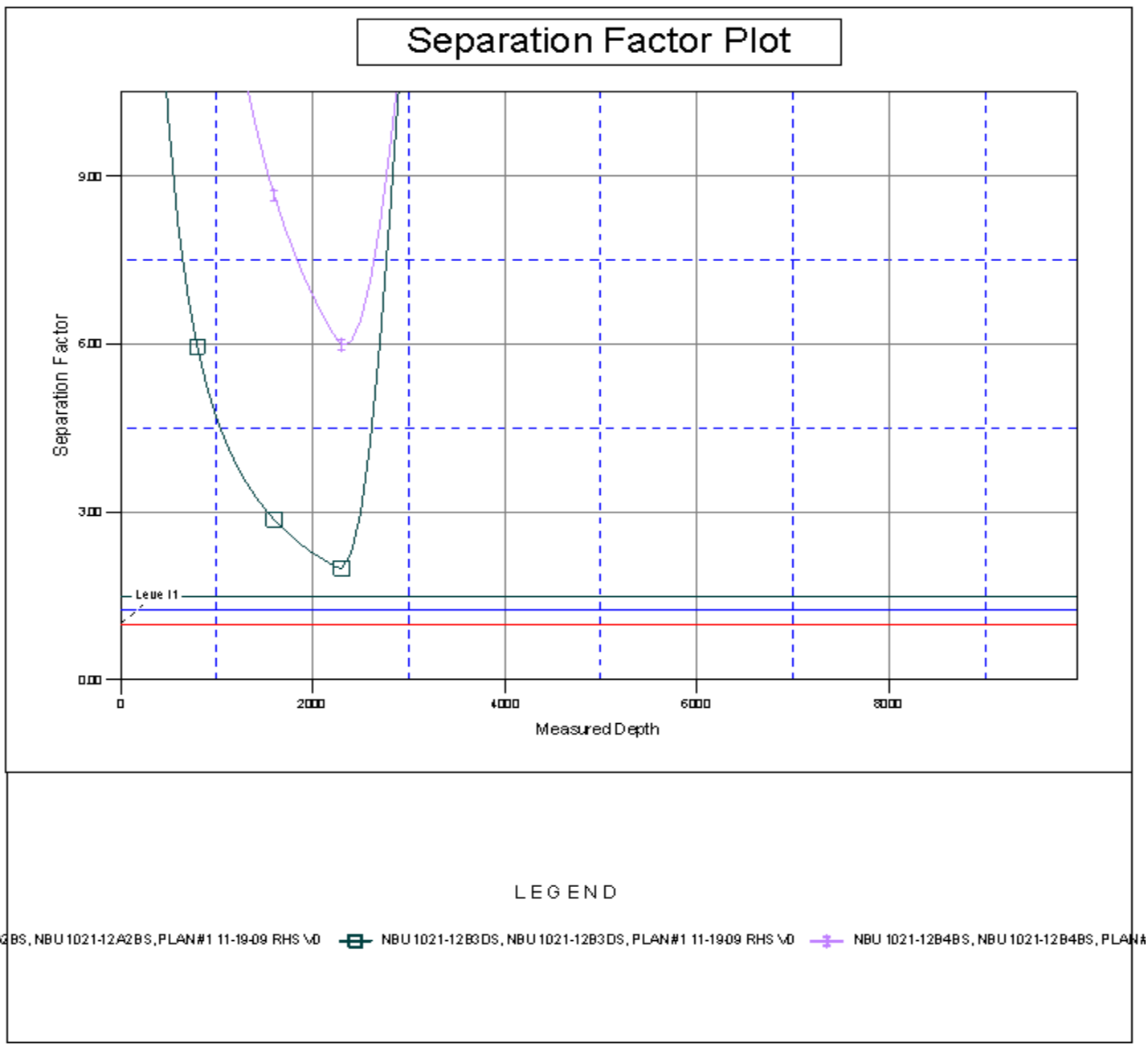


Weatherford International Ltd.

Anticollision Report

Company:	ANADARKO PETROLEUM CORP.	**Local Co-ordinate Reference:**	Well NBU 1021-1O3AS
Project:	UINTAH COUNTY, UTAH (nad 27)	**TVD Reference:**	WELL @ 5235.00ft (Original Well Elev)
Reference Site:	NBU 1021-1O Pad	**MD Reference:**	WELL @ 5235.00ft (Original Well Elev)
Site Error:	0.00ft	**North Reference:**	True
Reference Well:	NBU 1021-1O3AS	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00ft	**Output errors are at**	2.00 sigma
Reference Wellbore	NBU 1021-1O3AS	**Database:**	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 11-19-09 RHS	**Offset TVD Reference:**	Offset Datum

Reference Depths are relative to WELL @ 5235.00ft (Original Well Ele\Coordinates are relative to: NBU 1021-1O3AS
Offset Depths are relative to Offset Datum
Coordinate System is Universal Transverse Mercator (US Survey Feet), Zone 12N
Central Meridian is 111° 0' 0.000 W °
Grid Convergence at Surface is: 0.96°



NBU 1021-1O3AS

Pad: NBU 1021-1O
Surface: 393’ FSL 2,439’ FEL (SW/4SE/4) Section 1
BHL: 368’ FSL 2,037’ FEL (SW/4SE/4) Section 1
T10S R21E

Uintah, Utah
Mineral Lease: ML 23612

ONSHORE ORDER NO. 1

DRILLING PROGRAM

1. – 2. Estimated Tops of Important Geologic Markers:
Estimated Depths of Anticipated Water, Oil, Gas, or Mineral Formations:

Formation	Depth	Resource
Uinta	0 – Surface	
Green River	1,366’	
Birds Nest	1,708’	Water
Mahogany	2,052’	Water
Wasatch	4,621’	Gas
Mesaverde	7,230’	Gas
MVU2	8,141’	Gas
MVL1	8,697’	Gas
TVD	9,423’	
TD	9,477’	

3. Pressure Control Equipment (Schematic Attached)

Please refer to the attached Drilling Program.

4. Proposed Casing & Cementing Program:

Please refer to the attached Drilling Program.

5. Drilling Fluids Program:

Please refer to the attached Drilling Program.

6. Evaluation Program:

Please refer to the attached Drilling Program.

7. Abnormal Conditions:

Maximum anticipated bottomhole pressure calculated at 9,423' TVD, approximately equals 5,773 psi (calculated at 0.61 psi/foot).

Maximum anticipated surface pressure equals approximately 3,700 psi (bottomhole pressure minus the pressure of a partially evacuated hole calculated at 0.22 psi/foot).

8. Anticipated Starting Dates:

Drilling is planned to commence immediately upon approval of this application.

9. Variances:

Please refer to the attached Drilling Program.
Onshore Order #2 – Air Drilling Variance

Kerr-McGee Oil & Gas Onshore LP (KMG) respectfully requests a variance to several requirements associated with air drilling outlined in Onshore Order 2

- *Blowout Prevention Equipment (BOPE) requirements;*
- *Mud program requirements; and*
- *Special drilling operation (surface equipment placement) requirements associated with air drilling.*

This Standard Operating Practices addendum provides supporting information as to why KMG current air drilling practices for constructing the surface casing hole should be granted a variance to Onshore Order 2 air drilling requirements.

The reader should note that the air rig is used only to construct a stable surface casing hole through a historically difficult lost circulation zone. A conventional rotary rig follows the air rig, and is used to drill and construct the majority of the wellbore.

More notable, KMG has used the air rig layout and procedures outlined below to drill the surface casing hole in approximately 675 wells without incident of blow out or loss of life.

Background

In a typical well, KMG utilizes an air rig for drilling the surface casing hole, an interval from the surface to surface casing depths, which varies in depth from 1,700 to 2,800 feet. The air rig drilling operation does not drill through productive or over pressured formations in KMG field, but does penetrate the Uinta and Green River Formations. The purpose of the air drilling operation is to overcome the severe loss circulation zone in the Green River known as the Bird's Nest while creating a stable hole for the surface casing. The surface casing hole is generally drilled to approximately 500 feet below the Bird's Nest.

Before the surface air rig is mobilized, a rathole rig is utilized to set and cement conductor pipe through a competent surface formation. Generally, the conductor is set at 40 feet. In some cases, conductor may be set deeper in areas that the surface formation is not found competent. This rig also drills the rat and mouse holes in preparation for the surface casing and production string drilling operations.

The air rig is then mobilized to drill the surface casing hole by drilling a 12-1/4 inch hole to just above the Bird's Nest interval with an air hammer. The hammer is then tripped and replaced with a 12-1/4 inch tri-cone bit. The tri-cone bit is used to drill to the surface casing point, approximately 500 feet below the loss circulation zone (Bird's Nest). The 9-5/8 inch surface casing is then run and cemented in place, thereby isolating the lost circulation zone.

KMG fully appreciates Onshore Order 2 well control and safety requirements associated with a typical air drilling operations. However, the requirements of Onshore Order 2 are excessive with respect to the air rig layout and drilling operation procedures that are currently in practice to drill and control the surface casing hole in KMG Fields.

Variance for BOPE Requirements
The air rig operation utilizes a properly lubricated and maintained air bowl diverter system which diverts the drilling returns to a six-inch blooie line. The air bowl is the only piece of BOPE equipment which is installed during drilling operations and is sufficient to contain the air returns associated with this drilling operation. As was discussed earlier, the drilling of the surface hole does not encounter any over pressured or productive zones, and as a result standard BOPE equipment should not be required. In addition, standard drilling practices do not support the use of BOPE on 40 feet of conductor pipe.

Variance for Mud Material Requirements
Onshore Order 2 also states that sufficient quantities of mud materials shall be maintained or readily accessible for the purpose of assuring adequate well control. Once again, the surface hole drilling operations does not encounter over pressured or productive intervals, and as a result there is not a need to control pressure in the surface hole with a mud system. Instead of mud, the air rigs utilize water from the reserve pit for well control, if necessary. A skid pump which is located near the reserve pit (see attachment) will supply the water to the well bore.

Variance for Special Drilling Operation (surface equipment placement) Requirements
Onshore Order 2 requires specific safety distances or setbacks for the placement of associated standard air drilling equipment, wellbore, and reserve pits. The air rigs used to drill the surface holes are not typical of an air rig used to drill a producing hole in other parts of the US. These are smaller in nature and designed to fit a KMG location. The typical air rig layout for drilling surface hole in the field is attached.

Typically the blooie line discharge point is required to be 100 feet from the well bore. In the case of a KMG well, the reserve pit is only 45 feet from the rig and is used for the drill cuttings. The blooie line, which transports the drill cuttings from the well to the reserve pit, subsequently discharges only 45 feet from the well bore.

Typically the air rig compressors are required to be located in the opposite direction from the blooie line and a minimum of 100 feet from the well bore. At the KMG locations, the air rig compressors are approximately 40 feet from the well bore and approximately 60 feet from the blooie line discharge due to the unique air rig design. The air compressors (see attachment) are located on the rig (1250 cfm) and on a standby trailer (1170 cfm). A booster sits between the two compressors and boosts the output from 350 psi to 2000 psi. The design does put the booster and standby compressor opposite from the blooie line.

Lastly, Onshore Order 2 addresses the need for an automatic igniter or continuous pilot light on the blooie line. The air rig does not utilize an igniter as the surface hole drilling operation does not encounter productive formations.

Conclusion
The air rig operating procedures and the attached air rig layout have effectively maintained well control while drilling the surface holes in KMG Fields. KMG respectfully requests a variance from Onshore Order 2 with respect to air drilling well control requirements as discussed above.

10. Other Information:

Please refer to the attached Drilling Program.

'APIWellNo:43047508540000'

KERR-McGEE OIL & GAS ONSHORE LP

DRILLING PROGRAM

COMPANY NAME	KERR-McGEE OIL & GAS ONSHORE LP		DATE	December 18, 2009	
WELL NAME	**NBU 1021-1O3AS**		TD	9,423' TVD	9,477' MD
FIELD	Natural Buttes	COUNTY Uintah	STATE Utah	FINISHED ELEVATION	5,221'
SURFACE LOCATION	SW/4 SE/4 393' FSL	2,439' FEL	Sec 1	T 10S	R 21E
	Latitude: 39.971439	Longitude: -109.498538			NAD 27
BTM HOLE LOCATION	SW/4 SE/4 368' FSL	2,037' FEL	Sec 1	T 10S	R 21E
	Latitude: 39.971374	Longitude: -109.497103			NAD 27
OBJECTIVE ZONE(S)	Wasatch/Mesaverde				
ADDITIONAL INFO	Regulatory Agencies: SITLA (Minerals), UDOGM (Surface), UDOGM Tri-County Health Dept.				

GEOLOGICAL			MECHANICAL		
LOGS	FORMATION TOPS	DEPTH	HOLE SIZE	CASING SIZE	MUD WEIGHT
		40'	14"		
			11"	8-5/8", 28#, IJ-55, LTC	Air mist

All water flows encountered while drilling will be reported to the appropriate agencies.

Green River @ 1,366'

Top of Birds Nest @ 1,708'

Mahogany @ 2,052'

Preset f/ GL @ 2,255' MD

Note: 12.25" surface hole will usually be drilled ±400' below the lost circulation zone (aka bird's nest). Drilled depth may be ±200' of the estimated set depth depending on the acutal depth of the loss zone.

Wasatch @ 4,621'

Mud logging program TBD

Cased hole logging program from TD - surf csg

7-7/8"	4-1/2" 11.6# I-80 or equivalent BTC csg	Water / Fresh Water Mud 8.3-12.0 ppg

Mverde @ 7,230' TVD

MVU2 @ 8,141' TVD

MVU1 @ 8,697' TVD

Max anticipated Mud required 12.0 ppg

TD @ 9,423' TVD 9,477' MD

'APIWellNo:43047508540000'

KERR-McGEE OIL & GAS ONSHORE LP

DRILLING PROGRAM

CASING PROGRAM

	SIZE	INTERVAL			WT.	GR.	CPLG.	DESIGN FACTORS BURST	COLLAPSE	TENSION
CONDUCTOR	14"	0-40'								
								3,390	1,880	348,000
SURFACE	8-5/8"	0	to	2,255	28.00	IJ-55	LTC	0.89	1.78	5.46
								7,780	6,350	278,000
PRODUCTION	4-1/2"	0	to	9,477	11.60	I-80	BTC	2.04	1.08	2.90

*Burst on suface casing is controlled by fracture gradient as shoe with gas gradient above. D.F. = 2.39

1) Max Anticipated Surf. Press.(MASP) (Surface Casing) = (Pore Pressure at next csg point-(0.22 psi/ft-partial evac gradient x TVD of next csg point))

2) MASP (Prod Casing) = Pore Pressure at TD - (0.22 psi/ft-partial evac gradient x TD)
(Burst Assumptions: TD = 12.0 ppg) 0.22 psi/ft = gradient for partially evac wellbore
(Collapse Assumption: Fully Evacuated Casing, Max MW) (Tension Assumptions: Air Weight of Casing*Buoy.Fact. of water)
MASP 3,700 psi

3) Maximum Anticipated Bottom Hole Pressure (MABHP) = Pore Pressure at TD
(Burst Assumptions: TD = 12.0 ppg) 0.61 psi/ft = bottomhole gradient
(Collapse Assumption: Fully Evacuated Casing, Max MW) (Tension Assumptions: Air Weight of Casing*Buoy.Fact. of water)
MABHP 5,773 psi

CEMENT PROGRAM

		FT. OF FILL	DESCRIPTION	SACKS	EXCESS	WEIGHT	YIELD
SURFACE	LEAD	500'	Premium cmt + 2% CaCl	215	60%	15.60	1.18
Option 1			+ 0.25 pps flocele				
	TOP OUT CMT (6 jobs)	1,200'	20 gals sodium silicate + Premium cmt	260	0%	15.60	1.18
			+ 2% CaCl + 0.25 pps flocele				
			Premium cmt + 2% CaCl				
SURFACE			**NOTE: If well will circulate water to surface, option 2 will be utilized**				
Option 2	LEAD	1,755'	65/35 Poz + 6% Gel + 10 pps gilsonite	340	35%	12.60	1.81
			+ 0.25 pps Flocele + 3% salt BWOW				
	TAIL	500'	Premium cmt + 2% CaCl	150	35%	15.60	1.18
			+ 0.25 pps flocele				
	TOP OUT CMT	as required	Premium cmt + 2% CaCl	as req.		15.60	1.18
PRODUCTION	LEAD	4,117'	Premium Lite II +0.25 pps	340	40%	11.00	3.38
			celloflake + 5 pps gilsonite + 10% gel				
			+ 0.5% extender				
	TAIL	5,360'	50/50 Poz/G + 10% salt + 2% gel	1,310	40%	14.30	1.31
			+ 0.1% R-3				

*Substitute caliper hole volume plus 0% excess for LEAD if accurate caliper is obtained

*Substitute caliper hole volume plus 10% excess for TAIL if accurate caliper is obtained

FLOAT EQUIPMENT & CENTRALIZERS

SURFACE	Guide shoe, 1 jt, insert float. Centralize first 3 joints with bow spring centralizers. Thread lock guide shoe
PRODUCTION	Float shoe, 1 jt, float collar. No centralizers will be used.

ADDITIONAL INFORMATION

Test casing head to 750 psi after installing. Test surface casing to 1,500 psi prior to drilling out.

BOPE: 11" 5M with one annular and 2 rams. The BOPE will be installed before the production hole is drilled and tested to 5,000 psi (annular to 2,500 psi) prior to drilling out the surface casing shoe. Record on chart recorder and tour sheet. Function test rams on each trip. Maintain safety valve and inside BOP on rig floor at all times. Most rigs have top drives; however, if used, the Kelly is to be equipped with upper and lower kelly valves.

Surveys will be taken at 1,000' minimum intervals.

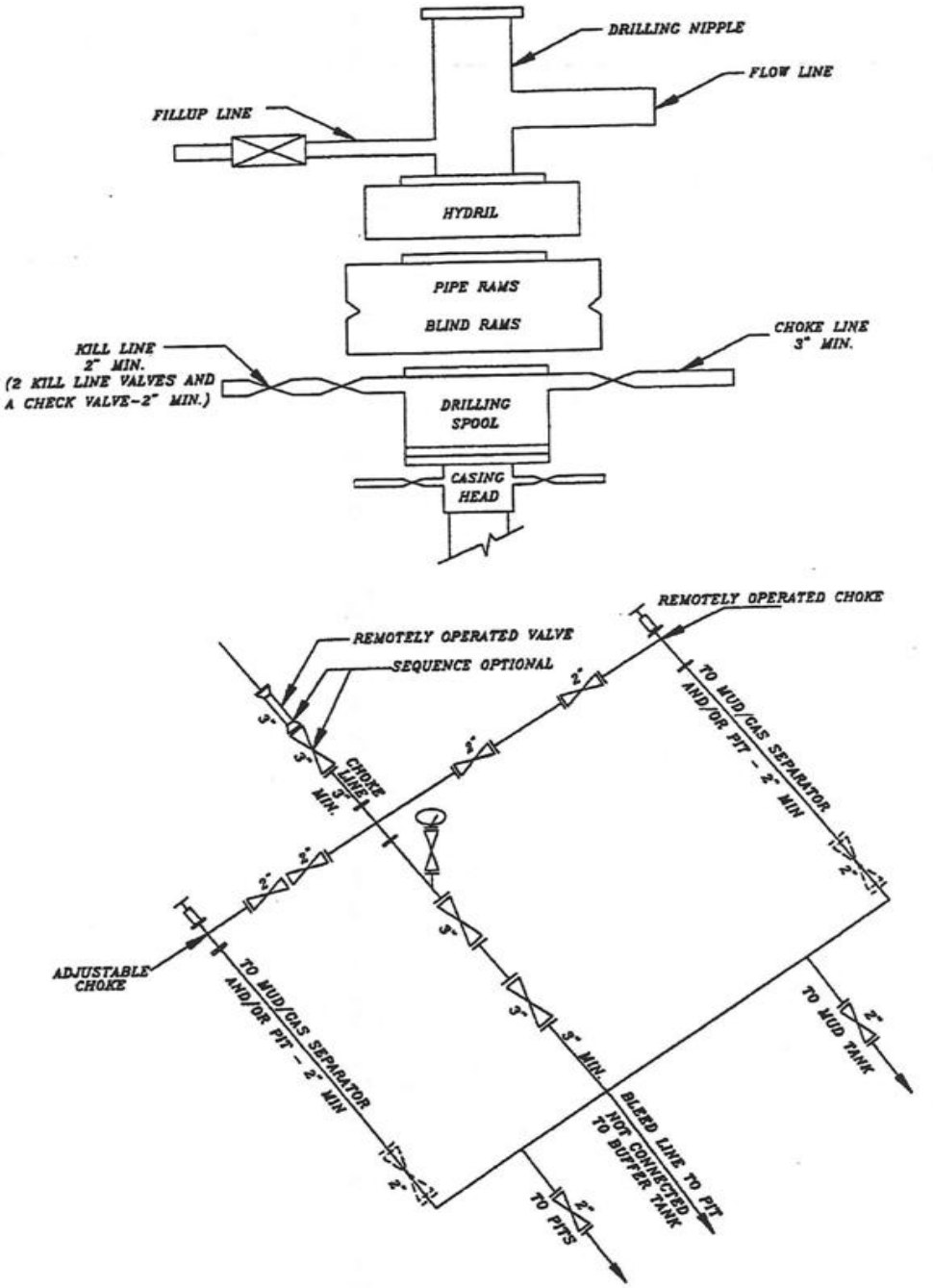
Most rigs have PVT System for mud monitoring. If no PVT is available, visual monitoring will be utilized.

DRILLING ENGINEER: _____ **DATE:** _____
John Huycke / Emile Goodwin

DRILLING SUPERINTENDENT: _____ **DATE:** _____
John Merkel / Lovel Young

’APIWellNo:43047508540000’

EXHIBIT A
NBU 1021-1O3AS



SCHEMATIC DIAGRAM OF 5,000 PSI BOP STACK

'APIWellNo:43047508540000'

LATITUDE & LONGITUDE Surface Position - (NAD 83)		
WELL	N. LATITUDE	W. LONGITUDE
NBU 1021-01O3AS	39°58'17.054" 39.971404°	109°29'57.208" 109.499224°
NBU 1021-12B3DS	39°58'16.866" 39.971352°	109°29'57.131" 109.499203°
NBU 1021-12A2BS	39°58'16.678" 39.971299°	109°29'57.051" 109.499181°
NBU 1021-12B4BS	39°58'16.491" 39.971247°	109°29'56.973" 109.499159°
NBU 1021-01O Existing Well	39°58'15.586" 39.970996°	109°29'59.497" 109.499860°

LATITUDE & LONGITUDE Bottom Hole - (NAD 83)		
WELL	N. LATITUDE	W. LONGITUDE
NBU 1021-01O3AS	39°58'16.820" 39.971339°	109°29'52.039" 109.497789°
NBU 1021-12B3DS	39°58'01.718" 39.967144°	109°29'54.646" 109.498513°
NBU 1021-12A2BS	39°58'09.870" 39.969408°	109°29'39.560" 109.494322°
NBU 1021-12B4BS	39°58'04.329" 39.967869°	109°29'48.208" 109.496725°

RELATIVE COORDINATES From Surface Position to Bottom Hole		
WELL	NORTH	EAST
NBU 1021-01O3AS	-24'	403'
NBU 1021-12B3DS	-1,533'	193'
NBU 1021-12A2BS	-690'	1,362'
NBU 1021-12B4BS	-1,231'	682'

BASIS OF BEARINGS IS THE WEST LINE OF THE NW 1/4 OF SECTION 7, T10S, R22E, S.L.B.&M. WHICH IS TAKEN FROM GLOBAL POSITIONING SATELLITE OBSERVATIONS TO BEAR N00°20'13"W.

N17°44'08"W Az=342.26444°

NBU 1021-01O3AS
Az. to Exist. W.H.=230.21083° 232.1'

NBU 1021-12B3DS
Az. to Exist. W.H.=234.90111° 225.3'

NBU 1021-12A2BS
Az. to Exist. W.H.=239.89694° 220.2'

NBU 1021-12B4BS
Az. to Exist. W.H.=245.03778° 216.8'

20' 20' 20'

Az=93.39361°
S86°36'23"E - 403.22'
(To Bottom Hole)

Az=116.85667°
S63°08'36"E - 1526.49'
(To Bottom Hole)

Az=172.82944°
S07°10'14"E - 1545.43'
(To Bottom Hole)

Az=151.01250°
S28°59'15"E - 1407.51'
(To Bottom Hole)

SURFACE POSITION FOOTAGES:

NBU 1021-01O3AS
393' FSL & 2439' FEL

NBU 1021-12B3DS
374' FSL & 2433' FEL

NBU 1021-12A2BS
355' FSL & 2427' FEL

NBU 1021-12B4BS
336' FSL & 2422' FEL

NBU 1021-01O EXISTING WELL
245' FSL & 2619' FEL

BOTTOM HOLE FOOTAGES

NBU 1021-01O3AS
368' FSL & 2037' FEL

NBU 1021-12B3DS
1160' FNL & 2250' FEL

NBU 1021-12A2BS
338' FNL & 1070' FEL

NBU 1021-12B4BS
897' FNL & 1747' FEL

◉ EXISTING WELL: NBU 1021-01O

LATITUDE & LONGITUDE Surface Position - (NAD 27)		
WELL	N. LATITUDE	W. LONGITUDE
NBU 1021-01O3AS	39°58'17.179" 39.971439°	109°29'54.739" 109.498538°
NBU 1021-12B3DS	39°58'16.992" 39.971387°	109°29'54.662" 109.498517°
NBU 1021-12A2BS	39°58'16.803" 39.971334°	109°29'54.582" 109.498495°
NBU 1021-12B4BS	39°58'16.616" 39.971282°	109°29'54.504" 109.498473°
NBU 1021-01O Existing Well	39°58'15.711" 39.971031°	109°29'57.027" 109.499174°

LATITUDE & LONGITUDE Bottom Hole - (NAD 27)		
WELL	N. LATITUDE	W. LONGITUDE
NBU 1021-01O3AS	39°58'16.945" 39.971374°	109°29'49.570" 109.497103°
NBU 1021-12B3DS	39°58'01.843" 39.967179°	109°29'52.177" 109.497827°
NBU 1021-12A2BS	39°58'09.995" 39.969443°	109°29'37.092" 109.493637°
NBU 1021-12B4BS	39°58'04.455" 39.967904°	109°29'45.740" 109.496039°

N

60' 30' 0' 60'

SCALE

Kerr-McGee Oil & Gas Onshore, LP
1099 18th Street - Denver, Colorado 80202

WELL PAD - NBU 1021-01O

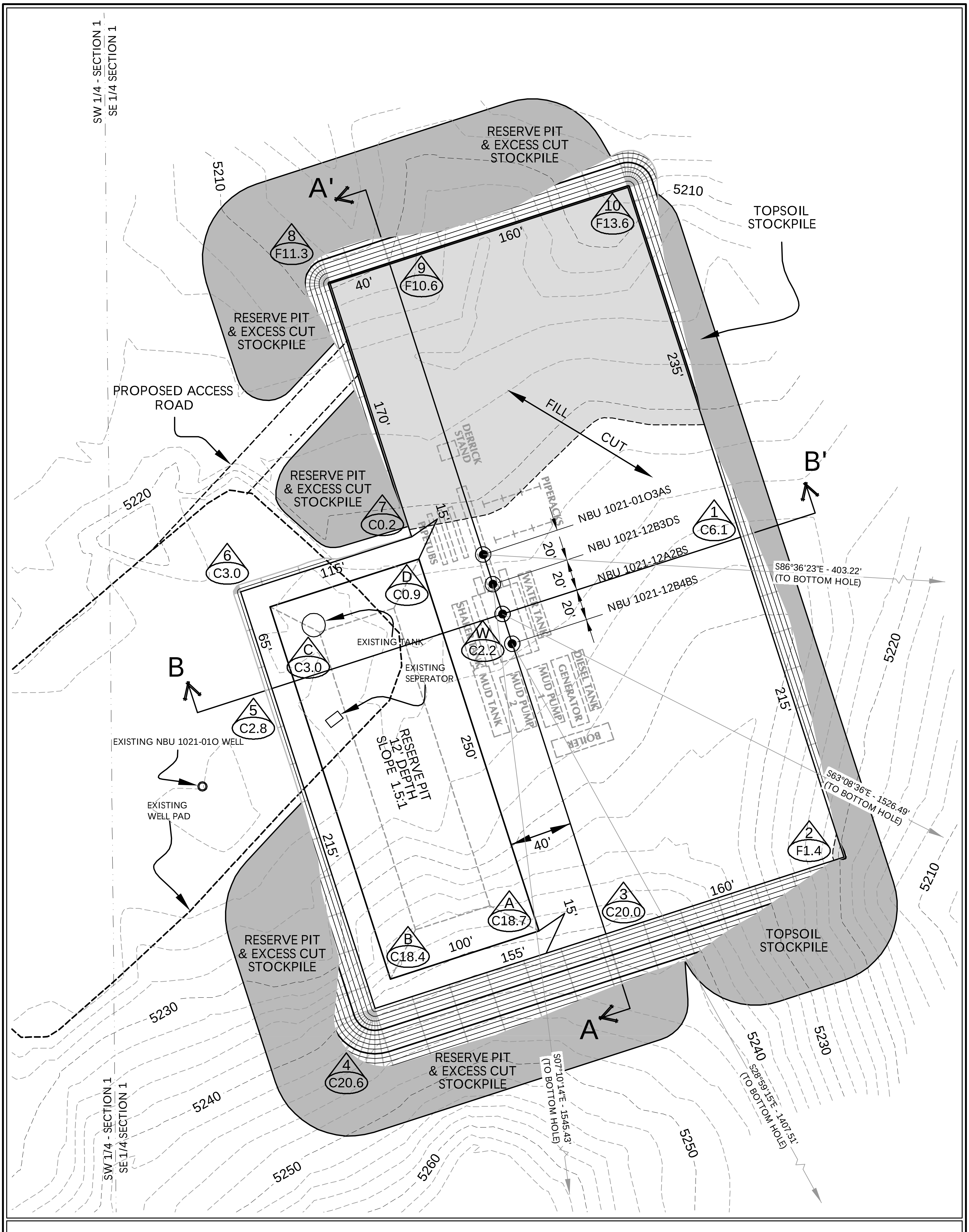
WELL PAD INTERFERENCE PLAT
NBU 1021-01O3AS, NBU 1021-12B3DS, NBU 1021-12A2BS & NBU 1021-12B4BS LOCATED IN SECTION 1, T10S, R21E, S.L.B.&M., UINTAH COUNTY, UTAH.

609 CONSULTING, LLC
371 Coffeen Avenue
Sheridan WY 82801
Phone 307-674-0609
Fax 307-674-0182

TIMBERLINE (435) 789-1365
ENGINEERING & LAND SURVEYING, INC.
209 NORTH 300 WEST - VERNAL, UTAH 84078

DATE SURVEYED: 06-24-09	SURVEYED BY: D.J.S.	SHEET NO: 5
DATE DRAWN: 06-26-09	DRAWN BY: M.W.W.	5 OF 13
SCALE: 1" = 60'	Date Last Revised:	

'APIWellNo:43047508540000'



WELL PAD NBU 1021-01O QUANTITIES

EXISTING GRADE @ CENTER OF WELL PAD = 5222.9'
FINISHED GRADE ELEVATION = 5220.7'
CUT SLOPES = 1.5:1
FILL SLOPES = 1.5:1

TOTAL CUT FOR WELL PAD = 26,306 C.Y.
TOTAL FILL FOR WELL PAD = 7,319 C.Y.
TOPSOIL @ 6" DEPTH = 2,413 C.Y.
EXCESS MATERIAL = 18,987 C.Y.
TOTAL DISTURBANCE = 3.28 ACRES
SHRINKAGE FACTOR = 1.10
SWELL FACTOR = 1.00
RESERVE PIT CAPACITY (2' OF FREEBOARD)
+/- 32,370 BARRELS
RESERVE PIT VOLUME
+/- 8,510 CY

WELL PAD LEGEND

- EXISTING WELL LOCATION
- PROPOSED WELL LOCATION
- PROPOSED BOTTOM HOLE LOCATION
- EXISTING CONTOURS (2' INTERVAL)
- PROPOSED CONTOURS (2' INTERVAL)

HORIZONTAL 0 30 60 1" = 60'
2' CONTOURS

Kerr-McGee Oil & Gas Onshore, LP
1099 18th Street - Denver, Colorado 80202

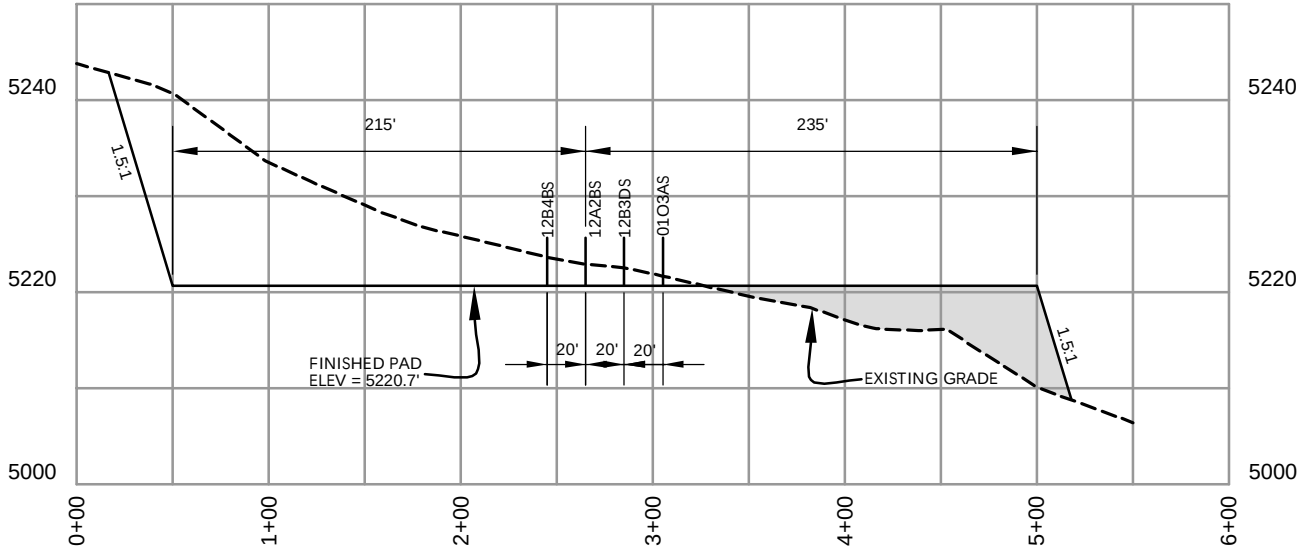
WELL PAD - NBU 1021-01O

WELL PAD - LOCATION LAYOUT
NBU 1021-01O3AS, NBU 1021-12B3DS
NBU 1021-12A2BS & NBU 1021-12B4BS
LOCATED IN SECTION 1, T10S, R21E
S.L.B.&M., UINTAH COUNTY, UTAH

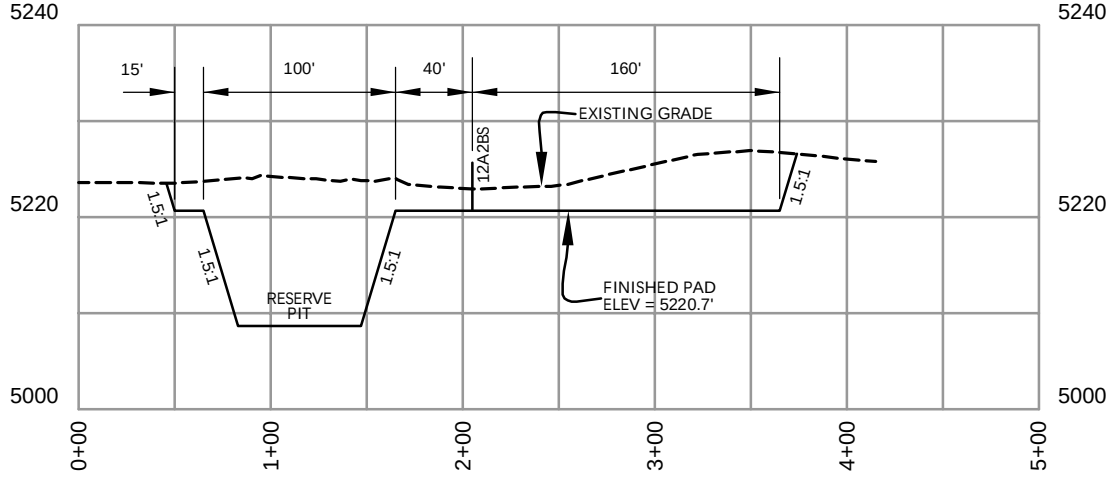
609 CONSULTING, LLC
371 Coffeen Avenue
Sheridan WY 82801
Phone 307-674-0609
Fax 307-674-0182

Scale: 1"=60'	Date: 6/30/09	SHEET NO: 6 (6 OF 13)
REVISED:		

TIMBERLINE (435) 789-1365
ENGINEERING & LAND SURVEYING, INC.
209 NORTH 300 WEST - VERNAL, UTAH 84078



CROSS SECTION A-A'



CROSS SECTION B-B'

Kerr-McGee Oil & Gas Onshore, LP
1099 18th Street - Denver, Colorado 80202

WELL PAD - NBU 1021-01O

WELL PAD - CROSS SECTIONS
NBU 1021-01O3AS, NBU 1021-12B3DS
NBU 1021-12A2BS & NBU 1021-12B4BS
LOCATED IN SECTION 1, T10S, R21E
S.L.B.&M., UINTAH COUNTY, UTAH

609
CONSULTING, LLC
371 Coffeen Avenue
Sheridan WY 82801
Phone 307-674-0609
Fax 307-674-0182

HORIZONTAL 0 50 100 1" = 100'
VERTICAL 0 10 20 1" = 20'

Scale: 1"=100'	Date: 6/30/09	SHEET NO: 7 of 13
REVISED:		

TIMBERLINE (435) 789-1365
ENGINEERING & LAND SURVEYING, INC.
209 NORTH 300 WEST - VERNAL, UTAH 84078

'APIWellNo:43047508540000'
K:\ANADARKO\2009_11_NBU_Directional_UELS_Edits\DWGS\NBU 1021-01O\1021-01O.dwg, 7/1/2009 4:40:32 PM, PDF-XChange for AcroPlot Pro

'APIWellNo:43047508540000'

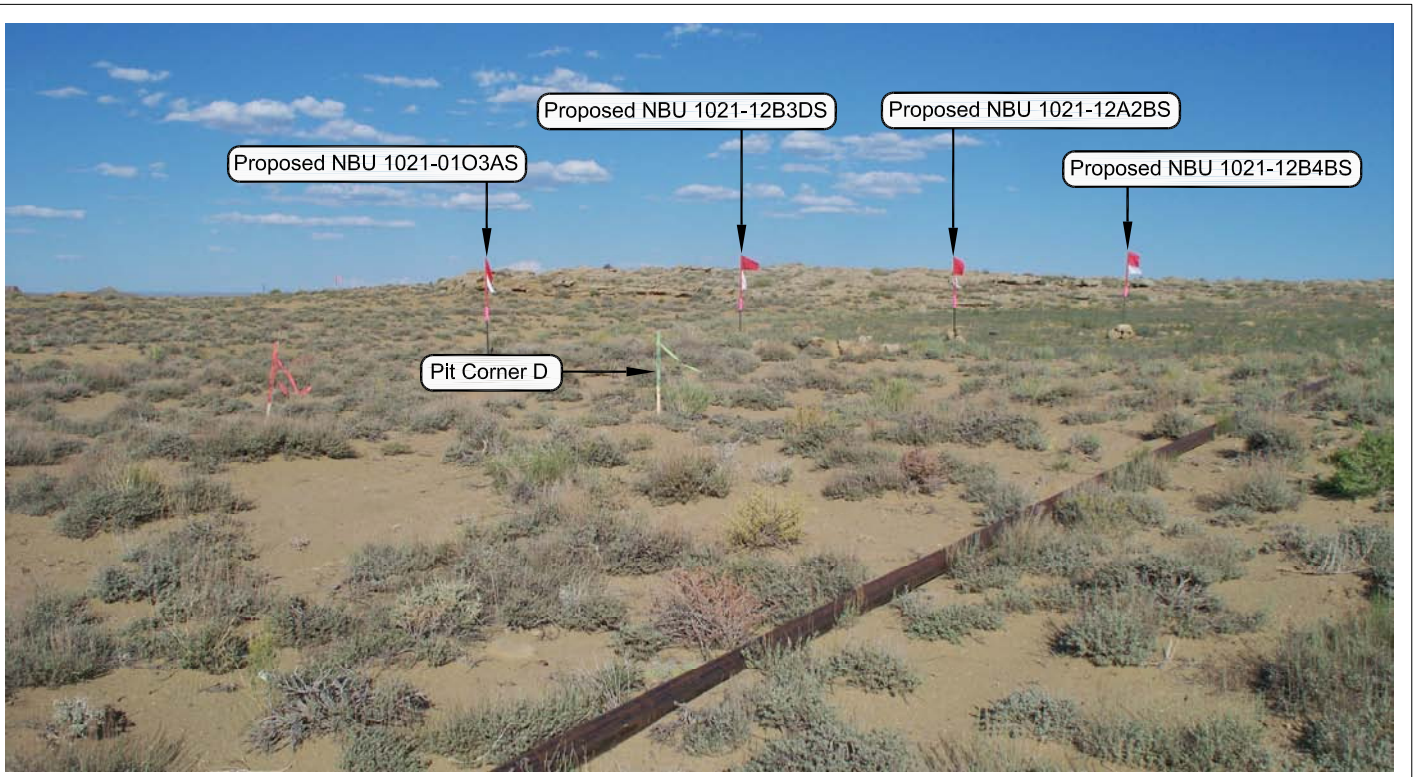


PHOTO VIEW: FROM PIT CORNER D TO LOCATION STAKE CAMERA ANGLE: SOUTHEASTERLY

PHOTO VIEW: FROM BEGINNING OF PROPOSED ROAD CAMERA ANGLE: NORTHEASTERLY

Kerr-McGee Oil & Gas Onshore, LP
1099 18th Street - Denver, Colorado 80202

Well Pad - NBU 1021-01O

NBU 1021-01O3AS, NBU 1021-12B3DS, NBU 1021-12A2BS & NBU 1021-12B4BS LOCATION PHOTOS LOCATED IN SECTION 1, T10S, R21E, S.L.B.&M., UINTAH COUNTY, UTAH.

609 CONSULTING, LLC
371 Coffeen Avenue
Sheridan WY 82801
Phone 307-674-0609
Fax 307-674-0182

TIMBERLINE (435) 789-1365
ENGINEERING & LAND SURVEYING, INC.
209 NORTH 300 WEST - VERNAL, UTAH 84078

DATE PHOTOS TAKEN: 06-24-09	PHOTOS TAKEN BY: D.J.S.	SHEET NO: 8
DATE DRAWN: 06-29-09	DRAWN BY: M.W.W.	8 OF 13
Date Last Revised:		

’APIWellNo:43047508540000’

’APIWellNo:43047508540000’

’APIWellNo:43047508540000’

’APIWellNo:43047508540000’

Kerr-McGee Oil & Gas Onshore, LP
WELL PAD - NBU 1021-01O
WELLS – NBU 1021-12B3DS, NBU 1021-12B4BS , NBU 1021-12A2BS & NBU 1021-01O3AS
Section 1, T10S, R21E, S.L.B.&M.

PROCEED IN A WESTERLY DIRECTION FROM VERNAL, UTAH ALONG U.S. HIGHWAY 40 APPROXIMATELY 13.9 MILES TO THE JUNCTION OF STATE HIGHWAY 88. EXIT LEFT AND PROCEED IN A SOUTHERLY DIRECTION ALONG STATE HIGHWAY 88 APPROXIMATELY 16.8 MILES TO OURAY, UTAH. FROM OURAY, PROCEED IN A SOUTHERLY DIRECTION ALONG THE SEEP RIDGE ROAD (COUNTY B ROAD 2810) APPROXIMATELY 11.2 MILES TO THE INTERSECTION OF THE GLEN BENCH ROAD (COUNTY B ROAD 3260). EXIT LEFT AND PROCEED IN AN EASTERLY, THEN SOUTHEASTERLY, THEN NORTHEASTERLY DIRECTION ALONG THE GLEN BENCH ROAD APPROXIMATELY 8.1 MILES TO A CLASS D COUNTY ROAD TO THE SOUTHEAST. EXIT RIGHT AND PROCEED IN A SOUTHEASTERLY DIRECTION 0.6 MILES TO THE WEST SAND WASH ROAD (COUNTY B ROAD 4110). EXIT LEFT AND PROCEED IN AN EASTERLY, THEN SOUTHEASTERLY DIRECTION ALONG THE WEST SAND WASH ROAD APPROXIMATELY 0.9 MILES TO A SERVICE ROAD TO THE SOUTHEAST. EXIT LEFT AND PROCEED IN A SOUTHEASTERLY, THEN NORTHEASTERLY DIRECTION ALONG THE SERVICE ROAD APPROXIMATELY 0.5 MILES TO THE EXISTING ACCESS ROAD FOR THE NBU 1021-01O WELL PAD. EXIT RIGHT AND PROCEED IN AN EASTERLY DIRECTION ALONG THE ACCESS ROAD APPROXIMATELY 0.1 MILES TO THE NBU 1021-01O WELL PAD. PROCEED NORTHEASTERLY APPROXIMATELY 340 FEET CROSSING THE NBU 1021-01O WELL SITE AND TO THE PROPOSED ACCESS ROAD. FOLLOW ROAD FLAGS IN A NORTHEASTERLY DIRECTION APPROXIMATELY 120 FEET TO THE PROPOSED WELL PAD.

TOTAL DISTANCE FROM VERNAL, UTAH TO THE PROPOSED WELL LOCATION IS APPROXIMATELY 52.2 MILES IN A SOUTHERLY DIRECTION.

NBU 1021-1O3AS
Surface: 393' FSL 2,439' FEL (SW/4SE/4) Section 1
BHL: 368' FSL 2,037' FEL (SW/4SE/4) Section 1

NBU 1021-12A2BS
Surface: 355' FSL 2,427' FEL (SW/4SE/4) Section 1
BHL: 338' FNL 1,070' FEL (NE/4NE/4) Section 12

NBU 1021-12B3DS
Surface: 374' FSL 2,433' FEL (SW/4SE/4) Section 1
BHL: 1,160' FNL 2,250' FEL (NW/4NE/4) Section 12

NBU 1021-12B4BS
Surface: 336' FSL 2,422' FEL (SW/4SE/4) Section 1
BHL: 897' FNL 1,747' FEL (NW/4NE/4) Section 12

Pad: NBU 1021-1O
T10S R21E
Mineral Lease: ML 23612

Uintah, Utah
Operator: Kerr-McGee Oil & Gas Onshore LP

ONSHORE ORDER NO. 1

MULTI-POINT SURFACE USE & OPERATIONS PLAN SUBMITTED WITH SITE-SPECIFIC INFORMATION

To schedule an onsite meeting, please contact Sheila Wopsock at 435-781-7024.

Directional Drilling:
In accordance with Utah Oil & Gas Conservation Rule R649-3-11 pertaining to Directional Drilling, this well will be directionally drilled in order to access portions of our lease which are otherwise inaccessible due to topography.

A. Existing Roads:

A) Refer to Topo Map A for directions to the location.
B) Refer to Topo Maps A and B for location of access roads within a 2-mile radius.

B. **Planned Access Roads:**
See MDP for additional details on road construction.
Approximately ±120' (±0.02 miles) of new access road is proposed. Please refer to the attached Topo Map B. No pipelines will be crossed with the new construction.

Existence of pipelines; maximum grade; turnouts; major cut and fills, culverts, or bridges; gates, cattle guards, fence cuts, or modifications to existing facilities were determined at the on-site and are typically shown on the attached Exhibits and Topo maps.

C. **Location of Existing Wells Within a 1-Mile Radius:**
Please refer to Topo Map C.

D. **Location of Existing and Proposed Facilities:**
See MDP for additional details on Existing and Proposed Facilities.

This pad will expand the existing pad for the NBU 1021-1O well, which is a producing well according to Utah Division of Oil, Gas and Mining (UDOGM) records.

The following guidelines will apply if the well is productive.
Approximately ±105' (±0.02 miles) of new pipeline is proposed including another approximately ±660' (±0.04 miles) of proposed pipeline around the pad**.** Another approximately ±4,665' (±0.88 miles) of existing pipeline will be upgraded to accommodate anticipated production from the proposed wells. The upgraded pipeline will follow the same route as the existing pipeline. Please refer to Topo D for the existing pipeline. Pipeline segments will be welded or zaplocked together on disturbed areas in or near the location, whenever possible, and dragged into place.

E. **Location and Type of Water Supply:**
See MDP for additional details on Location and Type of Water Supply.

Water for drilling purposes will be obtained from one of the following sources:

- Dalbo Inc.'s underground well located in Ouray, Utah, Sec. 32 T4S R3E, Water User Claim number 43-8496, application number 53617.
- Price Water Pumping Inc. Green River and White River, various sources, Water Right Number 49-1659, application number: a35745.

Water will be hauled to location over the roads marked on Maps A and B.

No water well is to be drilled on this lease.

F. **Source of Construction Materials:**
See MDP for additional details on Source of Construction Materials.

G. **Methods of Handling Waste Materials:**
See MDP for additional details on Methods of Handling Waste Materials.

Any produced water from the proposed well will be contained in a water tank and will then be hauled by truck to one of the pre-approved disposal sites:

RNI in Sec. 5 T9S R22E
NBU #159 in Sec. 35 T9S R21E
Ace Oilfield in Sec. 2 T6S R20E
MC&MC in Sec. 12 T6S R19E
Pipeline Facility in Sec. 36 T9S R20E
Goat Pasture Evaporation Pond in SW/4 Sec. 16 T10S R22E
Bonanza Evaporation Pond in Sec. 2 T10S R23E

H. **Ancillary Facilities:**
See MDP for additional details on Ancillary Facilities.

None are anticipated.

I. **Well Site Layout:** (See Location Layout Diagram)
See MDP for additional details on Well Site Layout.

All pits will be fenced according to the following minimum standards:

- Net wire (39-inch) will be used with at least one strand of barbed wire on top of the net wire. Barbed wire is not necessary if pipe or some type of reinforcement rod is attached to the top of the entire fence.
- The net wire shall be no more than two inches above the ground. The barbed wire shall be three inches over the net wire. Total height of the fence shall be at least 42 inches.
- Corner posts shall be cemented and/or braced in such a manner to keep the fence tight at all times.
- Standard steel, wood, or pipe posts shall be used between the corner braces. Maximum distance between any 2 fence posts shall be no greater than 16 feet.
- All wire shall be stretched, by using a stretching device, before it is attached to corner posts.

J. **Plans for Reclamation of the Surface:**
See MDP for additional details on Plans for Reclamation of the Surface.

K. **Surface/Mineral Ownership:**
SITLA
675 East 500 South, Suite 500
Salt Lake City, UT 84102

L. **Other Information:**
See MDP for additional details on Other Information.

M. Lessee's or Operators' Representative & Certification:

Danielle Piernot
Regulatory Analyst
Kerr-McGee Oil & Gas Onshore LP
PO Box 173779
Denver, CO 80217-3779
(720) 929-6156

Tommy Thompson
General Manager, Drilling
Kerr-McGee Oil & Gas Onshore LP
PO Box 173779
Denver, CO 80217-3779
(720) 929-6724

Certification: All lease and/or unit operations will be conducted in such a manner that full compliance is made with all applicable laws, regulations, Onshore Oil and Gas Orders, the approved Plan of Operations, and any applicable Notice to Lessees.

The Operator will be fully responsible for the actions of its subcontractors. A complete copy of the approved "Application for Permit to Drill" will be furnished to the field representative(s) to ensure compliance and shall be on location during all construction and drilling operations.

Kerr-McGee Oil & Gas Onshore LP is considered to be the operator of the subject well. Kerr-McGee Oil & Gas Onshore LP agrees to be responsible under terms and conditions of the lease for the operations conducted upon leased lands.

Bond coverage pursuant to 43 CFR 3104 for lease activities is being provided by State Surety Bond 22013542.

I hereby certify that I, or persons under my supervision, have inspected the proposed drill site and access route, that I am familiar with the conditions that currently exist; that I have full knowledge of the State and Federal laws applicable to this operation; that the statements made in this plan are, to the best of my knowledge, true and correct; and the work associated with the operations proposed herein will be performed in conformity with this APD package and the terms and conditions under which it is approved. I also certify that I, or the company I represent, am responsible for operations conducted under this application. These statements are subject to the provisions of 18 U.S.C. 1001 for the filing of false statements.

Danielle Piernot
Danielle Piernot

December 18, 2009
Date

'APIWellNo:43047508540000'

Kerr-McGee Oil & Gas Onshore LP
1999 Broadway, Suite 3700
Denver, CO 80205

December 16, 2009

Mrs. Diana Mason
Division of Oil, Gas and Mining
P.O. Box 145801
Salt Lake City, UT 84114-6100

Re: Directional Drilling R649-3-11
NBU 1021-1O3AS
T10S R21E
Section 1: SWSE/SWSE
393' FSL, 2439' FEL (surface)
368' FSL, 2037' FEL
Uintah County, Utah

Dear Mrs. Mason:

Pursuant to the filing of Kerr-McGee Oil & Gas Onshore LP's (Kerr-McGee) Application for Permit to Drill regarding the above referenced well, we are hereby submitting this letter in accordance with Oil & Gas Conservation Rule R649-3-11 pertaining to the Directional Drilling of Wells.

- Kerr-McGee's NBU 1021-1O3AS is located within the Natural Buttes Unit area.
- Kerr-McGee is permitting this well as a directional well in order to minimize surface disturbance. Locating the well at the surface location and directionally drilling from this location, Kerr-McGee will be able to utilize the existing road and pipelines in the area.
- Furthermore, Kerr-McGee certifies that it is the sole working interest owner within 460 feet of the entire directional well bore

Therefore, based on the above stated information Kerr-McGee Oil & Gas Onshore LP requests the permit be granted pursuant to R649-3-11.

Sincerely,

KERR-MCGEE OIL & GAS ONSHORE LP

Jason K. Rayburn
Landman

CLASS I REVIEW OF KERR-MCGEE OIL AND GAS ONSHORE LP'S PROPOSED DRILL LOCATIONS: NBU 1021-01O3AS, NBU 1021-12A2BS, NBU 1021-12B3DS, AND NBU 1021-12B4BS (T10S, R21E, SEC. 1) UINTAH COUNTY, UTAH

By:

Jacki A. Montgomery

Prepared For:

Bureau of Land Management
Vernal Field Office
and
School and Institutional Trust Lands Administration
Salt Lake City

Prepared Under Contract With:

Kerr-McGee Oil and Gas Onshore LP
1368 South 1200 East
Vernal, Utah 84078

Prepared By:

Montgomery Archaeological Consultants, Inc.
P.O. Box 219
Moab, Utah 84532

MOAC Report No. 09-125

August 25, 2009

United States Department of Interior (FLPMA)
Permit No. 09-UT-60122

Public Lands Policy Coordination Office
Archaeological Survey Permit No. 117

IPC #09-125

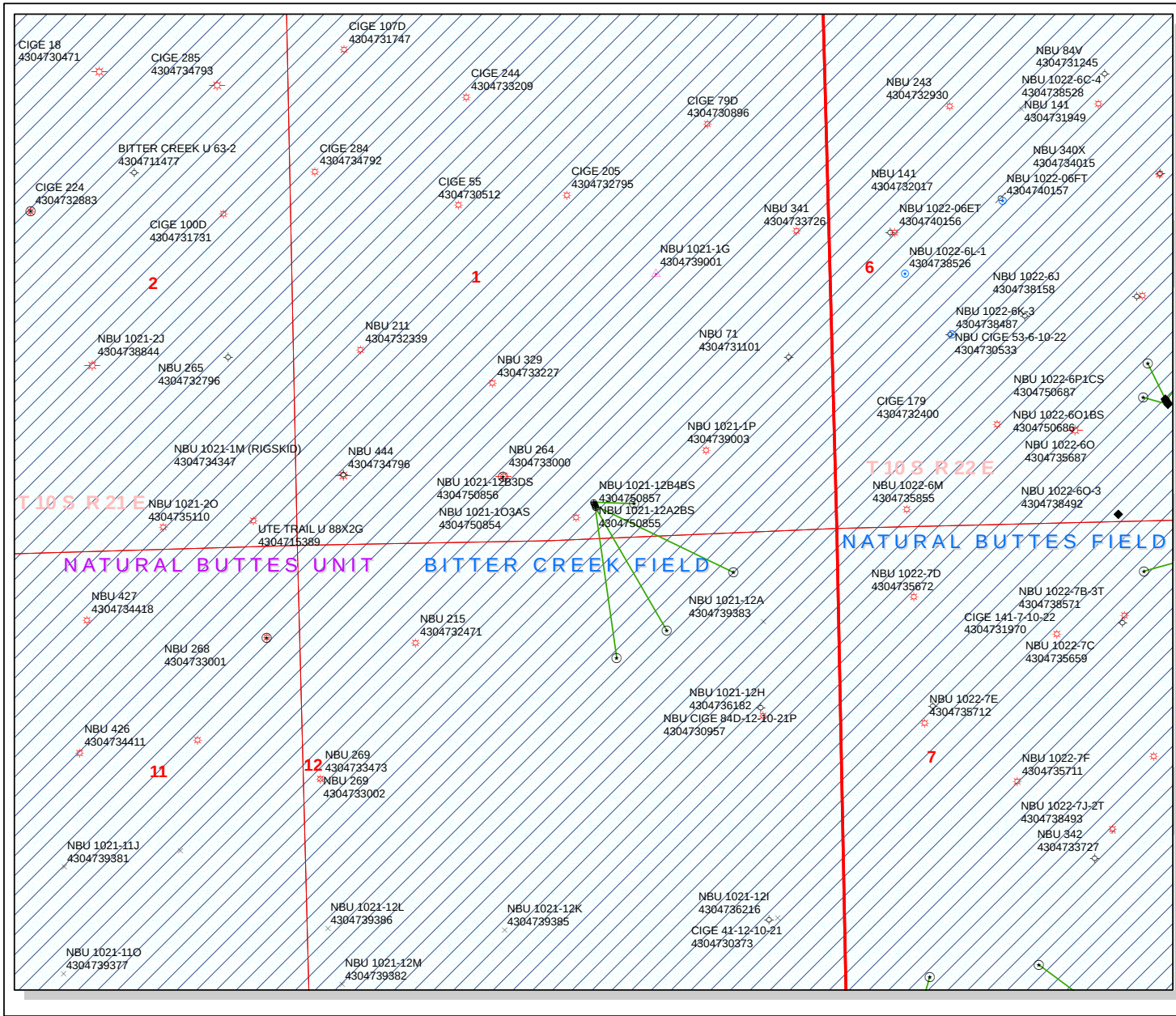
Paleontological Reconnaissance Survey Report

Survey of Kerr McGee's Proposed Multi-Well Pad, Access Road, Pipeline, and Pipeline Upgrade for "NBU 1021-01O with wells NBU #1021-01O3AS, 12B3DS, 12A2BS, & 12B4BS" (Sec. 1, 2, 11 & 12, T 10 S, R 21 E)

Archy Bench & Big Pack Mtn NE
Topographic Quadrangles
Uintah County, Utah

August 12, 2009

Prepared by Stephen D. Sandau
Paleontologist for
Intermountain Paleo-Consulting
P. O. Box 1125
Vernal, Utah 84078



API Number: 4304750854

Well Name: NBU 1021-1O3AS

Township 10.0 S Range 21.0 E Section 1

Meridian: SLBM

Operator: KERR-MCGEE OIL & GAS ONSHORE, L.P.

Map Prepared:
Map Produced by Diana Mason

Units

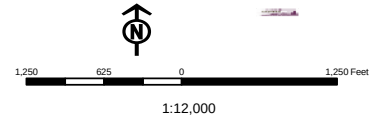
STATUS
- ACTIVE
- EXPLORATORY
- GAS STORAGE
- NF PP OIL
- NF SECONDARY
- PI OIL
- PP GAS
- PP GEOTHERML
- PP OIL
- SECONDARY
- TERMINATED

Fields

STATUS
- Unknown
- ABANDONED
- ACTIVE
- COMBINED
- INACTIVE
- STORAGE
- TERMINATED
- Sections
- Township

Wells Query
- <all other values>

Status
- APD - Aproved Permit
- DRL - Spuded (Drilling Commenced)
- GIW - Gas Injection
- GS - Gas Storage
- LA - Location Abandoned
- LOC - New Location
- OPS - Operation Suspended
- PA - Plugged Abandoned
- PGW - Producing Gas Well
- POW - Producing Oil Well
- RET - Returned APD
- SGW - Shut-in Gas Well
- SOW - Shut-in Oil Well
- TA - Temp. Abandoned
- TW - Test Well
- WDW - Water Disposal
- WIW - Water Injection Well
- WSW - Water Supply Well



1:12,000

’APIWellNo:43047508540000’

United States Department of the Interior

BUREAU OF LAND MANAGEMENT

Utah State Office
P.O. Box 45155
Salt Lake City, Utah 84145-0155

IN REPLY REFER TO:
3160
(UT-922)

January 11, 2010

Memorandum

To: Assistant District Manager Minerals, Vernal District

From: Michael Coulthard, Petroleum Engineer

Subject: 2010 Plan of Development Natural Buttes Unit
Uintah County, Utah.

Pursuant to email between Diana Whitney, Division of Oil, Gas and Mining, and Mickey Coulthard, Utah State Office, Bureau of Land Management, the following wells are planned for calendar year 2010 within the Natural Buttes Unit, Uintah County, Utah.

API #	WELL NAME	LOCATION
(Proposed PZ WASATCH-MESA VERDE)		
43-047-50854	NBU 1021-1O3AS	Sec 01 T10S R21E 0393 FSL 2439 FEL BHL Sec 01 T10S R21E 0368 FSL 2037 FEL
43-047-50855	NBU 1021-12A2BS	Sec 01 T10S R21E 0355 FSL 2427 FEL BHL Sec 12 T10S R21E 0338 FNL 1070 FEL
43-047-50856	NBU 1021-12B3DS	Sec 01 T10S R21E 0374 FSL 2433 FEL BHL Sec 12 T10S R21E 1160 FNL 2250 FEL
43-047-50857	NBU 1021-12B4BS	Sec 01 T10S R21E 0336 FSL 2422 FEL BHL Sec 12 T10S R21E 0897 FNL 1747 FEL
43-047-50865	NBU 921-11L	Sec 11 T09S R21E 2410 FSL 0358 FWL
43-047-50866	NBU 921-11N	Sec 11 T09S R21E 0322 FSL 2386 FWL
43-047-50867	NBU 921-12P	Sec 12 T09S R21E 1128 FSL 1300 FEL
43-047-50872	NBU 921-27D3AS	Sec 27 T09S R21E 2151 FNL 2041 FWL BHL Sec 27 T09S R21E 0957 FNL 0472 FWL
43-047-50873	NBU 921-27E2AS	Sec 27 T09S R21E 2169 FNL 2049 FWL BHL Sec 27 T09S R21E 1443 FNL 0598 FWL
43-047-50874	NBU 921-27F2BS	Sec 27 T09S R21E 2132 FNL 2033 FWL BHL Sec 27 T09S R21E 1443 FNL 1570 FWL

API #	WELL NAME	LOCATION
(Proposed PZ WASATCH-MESA VERDE)		
43-047-50875	NBU 921-27F3CS	Sec 27 T09S R21E 2187 FNL 2057 FWL BHL Sec 27 T09S R21E 2486 FNL 1582 FWL
43-047-50876	NBU 921-27F4DS	Sec 27 T09S R21E 2206 FNL 2065 FWL BHL Sec 27 T09S R21E 2467 FNL 2440 FWL
43-047-50877	NBU 921-27C1BS	Sec 27 T09S R21E 1710 FNL 2189 FEL BHL Sec 27 T09S R21E 0056 FNL 2238 FWL
43-047-50878	NBU 921-27C3BS	Sec 27 T09S R21E 1750 FNL 2184 FEL BHL Sec 27 T09S R21E 0971 FNL 1423 FWL
43-047-50879	NBU 921-27C4DS	Sec 27 T09S R21E 1730 FNL 2187 FEL BHL Sec 27 T09S R21E 1191 FNL 2525 FWL
43-047-50880	NBU 921-27G2CS	Sec 27 T09S R21E 1770 FNL 2181 FEL BHL Sec 27 T09S R21E 1904 FNL 2565 FEL

This office has no objection to permitting the wells at this time.

/s/ Michael L. Coulthard

bcc: File - Natural Buttes Unit
Division of Oil Gas and Mining
Central Files
Agr. Sec. Chron
Fluid Chron

MCoulthard:mc:1-11-10

BOPE REVIEW KERR-MCGEE OIL & GAS ONSHORE, L.P. NBU 1021-1O3AS 43047508540000

Well Name	KERR-MCGEE OIL & GAS ONSHORE, L.P. NBU 1021-1O3AS 430475085			
String	Surf	Prod		
Casing Size(")	8.625	4.500		
Setting Depth (TVD)	2255	9423		
Previous Shoe Setting Depth (TVD)	40	2255		
Max Mud Weight (ppg)	8.4	12.0		
BOPE Proposed (psi)	500	5000		
Casing Internal Yield (psi)	3390	7780		
Operators Max Anticipated Pressure (psi)	5748	11.7		

Calculations	Surf String	8.625	"
Max BHP (psi)	.052*Setting Depth*MW=	985	
			BOPE Adequate For Drilling And Setting Casing at Depth?
MASP (Gas) (psi)	Max BHP-(0.12*Setting Depth)=	714	NO Air drill
MASP (Gas/Mud) (psi)	Max BHP-(0.22*Setting Depth)=	489	YES OK
			*Can Full Expected Pressure Be Held At Previous Shoe?
Pressure At Previous Shoe	Max BHP-.22*(Setting Depth - Previous Shoe Depth)=	498	NO Reasonable depth for area
Required Casing/BOPE Test Pressure=		2255	psi
*Max Pressure Allowed @ Previous Casing Shoe=		40	psi *Assumes 1psi/ft frac gradient

Calculations	Prod String	4.500	"
Max BPH (psi)	.052*Setting Depth*MW=	5880	
			BOPE Adequate For Drilling And Setting Casing at Depth?
MASP (Gas) (psi)	Max BHP-(0.12*Setting Depth)=	4749	YES
MASP (Gas/Mud) (psi)	Max BHP-(0.22*Setting Depth)=	3807	YES OK
			*Can Full Expected Pressure Be Held At Previous Shoe?
Pressure At Previous Shoe	Max BHP-.22*(Setting Depth - Previous Shoe Depth)=	4303	NO Reasonable for area
Required Casing/BOPE Test Pressure=		5000	psi
*Max Pressure Allowed @ Previous Casing Shoe=		2255	psi *Assumes 1psi/ft frac gradient

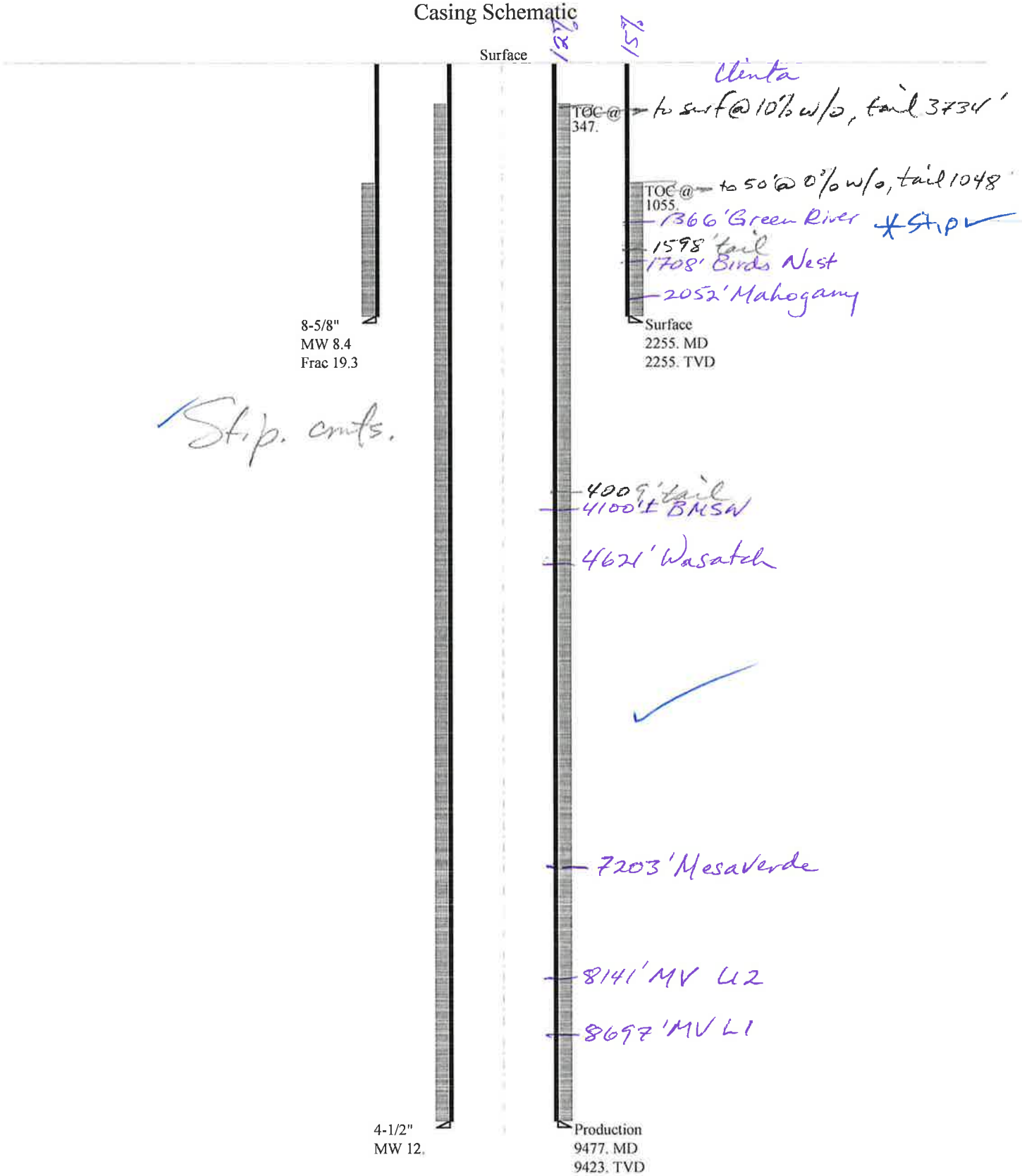
Calculations	String		"
Max BHP (psi)	.052*Setting Depth*MW=		
			BOPE Adequate For Drilling And Setting Casing at Depth?
MASP (Gas) (psi)	Max BHP-(0.12*Setting Depth)=		NO
MASP (Gas/Mud) (psi)	Max BHP-(0.22*Setting Depth)=		NO
			*Can Full Expected Pressure Be Held At Previous Shoe?
Pressure At Previous Shoe	Max BHP-.22*(Setting Depth - Previous Shoe Depth)=		NO
Required Casing/BOPE Test Pressure=			psi
*Max Pressure Allowed @ Previous Casing Shoe=			psi *Assumes 1psi/ft frac gradient

Calculations	String		"
Max BHP (psi)	.052*Setting Depth*MW=		
			BOPE Adequate For Drilling And Setting Casing at Depth?
MASP (Gas) (psi)	Max BHP-(0.12*Setting Depth)=		NO
MASP (Gas/Mud) (psi)	Max BHP-(0.22*Setting Depth)=		NO
			*Can Full Expected Pressure Be Held At Previous Shoe?
Pressure At Previous Shoe	Max BHP-.22*(Setting Depth - Previous Shoe Depth)=		NO
Required Casing/BOPE Test Pressure=			psi
*Max Pressure Allowed @ Previous Casing Shoe=			psi *Assumes 1psi/ft frac gradient

'APIWellNo:43047508540000'

43047508540000 NBU 1021-1O3AS

Casing Schematic



'APIWellNo:43047508540000'

Well name: **43047508540000 NBU 1021-1O3AS**
Operator: **KERR-MCGEE OIL & GAS ONSHORE, L.P.**
String type: Surface
Project ID: 43-047-50854
Location: UINTAH COUNTY

Design parameters:

Collapse
Mud weight: 8.400 ppg
Design is based on evacuated pipe.

Burst
Max anticipated surface pressure: 1,984 psi
Internal gradient: 0.120 psi/ft
Calculated BHP 2,255 psi

No backup mud specified.

Minimum design factors:

Collapse:
Design factor 1.125

Burst:
Design factor 1.00

Tension:
8 Round STC: 1.80 (J)
8 Round LTC: 1.70 (J)
Buttress: 1.60 (J)
Premium: 1.50 (J)
Body yield: 1.50 (B)

Tension is based on air weight.
Neutral point: 1,976 ft

Environment:
H2S considered? No
Surface temperature: 74 °F
Bottom hole temperature: 106 °F
Temperature gradient: 1.40 °F/100ft
Minimum section length: 100 ft

Cement top: 1,055 ft

Non-directional string.

Re subsequent strings:
Next setting depth: 9,423 ft
Next mud weight: 12.000 ppg
Next setting BHP: 5,874 psi
Fracture mud wt: 19.250 ppg
Fracture depth: 2,255 ft
Injection pressure: 2,255 psi

Run Seq	Segment Length (ft)	Size (in)	Nominal Weight (lbs/ft)	Grade	End Finish	True Vert Depth (ft)	Measured Depth (ft)	Drift Diameter (in)	Est. Cost ($)
1	2255	8.625	28.00	I-55	LT&C	2255	2255	7.892	89298

Run Seq	Collapse Load (psi)	Collapse Strength (psi)	Collapse Design Factor	Burst Load (psi)	Burst Strength (psi)	Burst Design Factor	Tension Load (kips)	Tension Strength (kips)	Tension Design Factor
1	984	1880	1.911	2255	3390	1.50	63.1	348	5.51 J

Prepared by: Helen Sadik-Macdonald
Div of Oil,Gas & Mining
Phone: 801 538-5357
FAX: 801-359-3940
Date: February 4,2010
Salt Lake City, Utah

Remarks:
Collapse is based on a vertical depth of 2255 ft, a mud weight of 8.4 ppg The casing is considered to be evacuated for collapse purposes. Collapse strength is based on the Westcott, Dunlop & Kemler method of biaxial correction for tension.

Burst strength is not adjusted for tension.

Engineering responsibility for use of this design will be that of the purchaser.

'APIWellNo:43047508540000'

Well name:	**43047508540000 NBU 1021-1O3AS**
Operator:	**KERR-MCGEE OIL & GAS ONSHORE, L.P.**
String type:	Production
Project ID:	43-047-50854
Location:	UINTAH COUNTY

Design parameters:

Collapse

Mud weight:	12.000 ppg
Internal fluid density:	1.000 ppg

Burst

Max anticipated surface pressure:	3,801 psi
Internal gradient:	0.220 psi/ft
Calculated BHP	5,874 psi

No backup mud specified.

Minimum design factors:

Collapse:

Design factor	1.125

Burst:

Design factor	1.00

Tension:

8 Round STC:	1.80 (J)
8 Round LTC:	1.80 (J)
Buttress:	1.60 (J)
Premium:	1.50 (J)
Body yield:	1.60 (B)

Tension is based on air weight.
Neutral point: 7,787 ft

Environment:

H2S considered?	No
Surface temperature:	74 °F
Bottom hole temperature:	206 °F
Temperature gradient:	1.40 °F/100ft
Minimum section length:	100 ft
Cement top:	347 ft

Directional Info - Build & Drop

Kick-off point	2302 ft
Departure at shoe:	403 ft
Maximum dogleg:	3 °/100ft
Inclination at shoe:	0 °

Run Seq	Segment Length (ft)	Size (in)	Nominal Weight (lbs/ft)	Grade	End Finish	True Vert Depth (ft)	Measured Depth (ft)	Drift Diameter (in)	Est. Cost ($)
1	9477	4.5	11.60	I-80	LT&C	9423	9477	3.875	125096

Run Seq	Collapse Load (psi)	Collapse Strength (psi)	Collapse Design Factor	Burst Load (psi)	Burst Strength (psi)	Burst Design Factor	Tension Load (kips)	Tension Strength (kips)	Tension Design Factor
1	5385	6360	1.181	5874	7780	1.32	109.3	212	1.94 J

Prepared by: Helen Sadik-Macdonald
Div of Oil,Gas & Mining
Phone: 801 538-5357
FAX: 801-359-3940
Date: February 4,2010
Salt Lake City, Utah

Remarks:
Collapse is based on a vertical depth of 9423 ft, a mud weight of 12 ppg An internal gradient of .052 psi/ft was used for collapse from TD to
Collapse strength is based on the Westcott, Dunlop & Kemler method of biaxial correction for tension.

Burst strength is not adjusted for tension.
Collapse strength is (biaxially) derated for doglegs in directional wells by multiplying the tensile stress by the cross section area to calculate a

’APIWellNo:43047508540000’

From: Jim Davis
To: Bonner, Ed; Hill, Brad; Mason, Diana
CC: Danielle Piernot; Garrison, LaVonne; Hayden, Martha; kathy.schneebeck...
Date: 2/8/2010 12:29 PM
Subject: Kerr McGee APD approvals and Paleo stipulations (13)

The following APDs have been approved by SITLA including arch and paleo clearance- with the following stipulations.

The paleo report for these wells recommends that spot monitoring should be done if the pipelines attending these wells are going to be buried. That recommendation is being made a condition of SITLA's approval of these APDs.

4304750854 NBU 1021-1O3AS
4304750855 NBU 1021-12A2BS
4304750856 NBU 1021-12B3DS
4304750857 NBU 1021-12B4BS

The paleo report for these wells recommends that paleo monitoring be conducted during construction. That recommendation is being made a condition of SITLA's approval of these APDs.

4304750872 NBU 921-27D3AS
4304750873 NBU 921-27E2AS
4304750874 NBU 921-27F2BS
4304750875 NBU 921-27F3CS
4304750876 NBU 921-27F4DS
4304750877 NBU 921-27C1BS
4304750878 NBU 921-27C3BS
4304750879 NBU 921-27C4DS
4304750880 NBU 921-27G2CS

Thanks.
-Jim

Jim Davis
Utah Trust Lands Administration
jimdavis1@utah.gov
Phone: (801) 538-5156

ON-SITE PREDRILL EVALUATION
Utah Division of Oil, Gas and Mining

Operator	KERR-MCGEE OIL & GAS ONSHORE, L.P.				
Well Name	NBU 1021-1O3AS				
API Number	43047508540000	**APD No**	2232	**Field/Unit**	NATURAL BUTTES
Location: 1/4,1/4	SWSE **Sec** 1 **Tw** 10.0S **Rng** 21.0E 393 FSL 2439 FEL				
GPS Coord (UTM)	628221 4425456	**Surface Owner**			

Participants

Floyd Bartlett (DOGM), Sheila Wopsock, Clay Einerson, Tony Kazeck, Ramie Hoopes, Joe Bowden, Jeff Samuels (Kerr McGee), Mitch.Batty, John Slaugh, (Timberline Engineering and Land Surveying), Jim Davis (SITLA), Ben Williams, Alex Hansen (UDWR).

Regional/Local Setting & Topography

This location is in the Natural Buttes Unit approximately 21.5 road miles southeast of Ouray, Utah. It is accessed by the Seep Ridge Road to the Uintah County Middle Road then by existing oil field development roads to within 120 feet which will require new construction

The general area is a sub-drainage of Sand Wash. This drainage enters the White River approximately five miles to the north. The area is characterized by rolling hills, which are frequently divided by somewhat gentle draws that drain northerly. All drainages are ephemeral. No springs, seeps or streams exist in the area. An occasional pond constructed to supply water for cattle and antelope exists. Tributaries are sometimes rimed with steep side hills, which have exposed sand stone bedrock cliffs along the rims.

Four gas wells are proposed to be directionally drilled from this pad which partially over laps the existing pad of the NBU 1021-01O producing gas well. The new wells are the NBU 1021-01O3AS, NBU 1021-12B3DS, NBU 1021-12A2BS and NBU 1021-12B4BS. The pad will be constructed on the west slope of a rolling to moderately steep sidehill. A rise to the south will be cut and moved to the north. To the east the slope breaks off into rougher terrain that drains northerly toward Sand Wash. The reserve pit will be reduced in length from 250 feet as shown to 200 feet with the reduction to occur on the north end. The selected site is the best location in the immediate area and should be suitable for drilling and operating the proposed wells.

Both the surface and minerals are owned by SITLA. Jim Davis of SITLA attended the site evaluation and had no concerns with the proposal. Kerr McGee was told to consult with SITLA for reclamation standards including seeding mixes to be used.

Alex Hansen and Ben Williams of the Utah Division of Wildlife Resources attended. It was stated that the area was yearlong antelope habitat but no stipulations for this species was recommended. No other wildlife is expected to be significantly affected.

Vegetation is a salt desert shrub type. About 8 inches of snow covered the area. Principal species identified were Indian rice grass, cheatgrass, halogeton, pepper grass, annuals and curly mesquite grass.

Cattle, antelope and small mammals and birds.

Soils are a shallow rocky sandy loam.

The reserve pit is planned in an area of cut in the southwest corner of the location. Dimensions are 100' x 200' x 12' deep with 2' of freeboard. Kerr McGee proposed to line the pit with a 30-mil liner and 2 layers of felt.

Surface Use Plan

Current Surface Use
Grazing
Wildlfe Habitat
Existing Well Pad

New Road Miles	Well Pad	Src Const Material	Surface Formation
0.04	**Width** 315 **Length** 450	Onsite	UNTA

Ancillary Facilities N

Waste Management Plan Adequate?

Environmental Parameters

Affected Floodplains and/or Wetlands N

Flora / Fauna

Vegetation is a salt desert shrub type. About 8 inches of snow covered the area. Principal species identified were Indian rice grass, cheatgrass, halogeton, pepper grass, annuals and curly mesquite grass.

Cattle, antelope and small mammals and birds.

Soil Type and Characteristics

Soils are a shallow rocky sandy loam.

Erosion Issues N

Sedimentation Issues N

Site Stability Issues N

Drainage Diverson Required? N

Berm Required? N

Erosion Sedimentation Control Required? N

Paleo Survey Run? Y **Paleo Potental Observed?** N **Cultural Survey Run?** Y **Cultural Resources?**

Reserve Pit

Site-Specific Factors		Site Ranking
Distance to Groundwater (feet)	100 to 200	5
Distance to Surface Water (feet)	>1000	0
Dist. Nearest Municipal Well (ft)	>5280	0
Distance to Other Wells (feet)		20
Native Soil Type	Mod permeability	10
Fluid Type	Fresh Water	5
Drill Cuttings	Normal Rock	0
Annual Precipitation (inches)		0

Affected Populations			
Presence Nearby Utility Conduits	Not Present	0	
	Final Score	40	1 Sensitivity Level

Characteristics / Requirements

The reserve pit is planned in an area of cut in the southwest corner of the location. Dimensions are 100' x 200' x 12' deep with 2' of freeboard. Kerr McGee proposed to line the pit with a 30-mil liner and 2 layers of felt.

It will be reduced in length from 250 feet as shown to 200 feet with the reduction to occur on the north end.

Closed Loop Mud Required? N **Liner Required?** Y **Liner Thickness** 30 **Pit Underlayment Required?** Y

Other Observations / Comments

Floyd Bartlett	1/12/2010
Evaluator	**Date / Time**

Application for Permit to Drill
Statement of Basis

APD No	API WellNo	Status	Well Type	Surf Owner	CBM
2232	43047508540000	SITLA	GW	S	No
Operator	KERR-MCGEE OIL & GAS ONSHORE, L.P.		**Surface Owner-APD**		
Well Name	NBU 1021-1O3AS		**Unit**	NATURAL BUTTES	
Field	NATURAL BUTTES		**Type of Work**	DRILL	
Location	SWSE 1 10S 21E S 393 FSL 2439 FEL		GPS Coord (UTM)	628236E 4425456N	

Geologic Statement of Basis

Kerr McGee proposes to set 2,255' of surface casing at this location. The depth to the base of the moderately saline water at this location is estimated to be at a depth of 4,100'. A search of Division of Water Rights records shows one water well within a 10,000 foot radius of the center of Section 1. The well has a depth of 2,640 feet, and its listed use is for oilfield drilling. The surface formation at this site is the Uinta Formation. The Uinta Formation is made up of interbedded shales and sandstones. The sandstones are mostly lenticular and discontinuous and should not be a significant source of useable ground water. Production casing cement should be brought up above the base of the moderately saline ground water to isolate it from fresher waters uphole.

Brad Hill	1/20/2010
APD Evaluator	**Date / Time**

Surface Statement of Basis

This location is in the Natural Buttes Unit approximately 21.5 road miles southeast of Ouray, Utah. It is accessed by the Seep Ridge Road to the Uintah County Middle Road then by existing oil field development roads to within 120 feet which will require new construction

The general area is a sub-drainage of Sand Wash. This drainage enters the White River approximately five miles to the north. The area is characterized by rolling hills, which are frequently divided by somewhat gentle draws that drain northerly. All drainages are ephemeral. No springs, seeps or streams exist in the area. An occasional pond constructed to supply water for cattle and antelope exists. Tributaries are sometimes rimed with steep side hills, which have exposed sand stone bedrock cliffs along the rims.

Four gas wells are proposed to be directionally drilled from this pad which partially over laps the existing pad of the NBU 1021-01O producing gas well. The new wells are the NBU 1021-01O3AS, NBU 1021-12B3DS, NBU 1021-12A2BS and NBU 1021-12B4BS. The pad will be constructed on the west slope of a rolling to moderately steep sidehill. A rise to the south will be cut and moved to the north. To the east the slope breaks off into rougher terrain that drains northerly toward Sand Wash. The reserve pit will be reduced in length from 250 feet as shown to 200 feet with the reduction to occur on the north end. The selected site is the best location in the immediate area and should be suitable for drilling and operating the proposed wells.

Both the surface and minerals are owned by SITLA. Jim Davis of SITLA attended the site evaluation and had no concerns with the proposal. Kerr McGee was told to consult with SITLA for reclamation standards including seeding mixes to be used.

Alex Hansen and Ben Williams of the Utah Division of Wildlife Resources attended. It was stated that the area was yearlong antelope habitat but no stipulations for this species was recommended. No other wildlife is expected to be significantly affected.

Floyd Bartlett	1/12/2010
Onsite Evaluator	**Date / Time**

Application for Permit to Drill
Statement of Basis

Conditions of Approval / Application for Permit to Drill

Category	Condition
Pits	A synthetic liner with a minimum thickness of 30 mils with a double felt subliner shall be properly installed and maintained in the reserve pit.
Surface	The reserve pit shall be fenced upon completion of drilling operations.

WORKSHEET
APPLICATION FOR PERMIT TO DRILL

APD RECEIVED: 12/18/2009 **API NO. ASSIGNED:** 43047508540000

WELL NAME: NBU 1021-1O3AS

OPERATOR: KERR-MCGEE OIL & GAS ONSHORE, L.P. (N2995) **PHONE NUMBER:** 720 929-6156

CONTACT: Danielle Piernot

PROPOSED LOCATION: SWSE 1 100S 210E **Permit Tech Review:** ☑

SURFACE: 0393 FSL 2439 FEL **Engineering Review:** ☑

BOTTOM: 0368 FSL 2037 FEL **Geology Review:** ☑

COUNTY: UINTAH

LATITUDE: 39.97143 **LONGITUDE:** -109.49839

UTM SURF EASTINGS: 628236.00 **NORTHINGS:** 4425456.00

FIELD NAME: NATURAL BUTTES

LEASE TYPE: 3 - State

LEASE NUMBER: ML 23612 **PROPOSED PRODUCING FORMATION(S):** WASATCH-MESA VERDE

SURFACE OWNER: 3 - State **COALBED METHANE:** NO

RECEIVED AND/OR REVIEWED:

- ☑ **PLAT**
- ☑ **Bond:** STATE/FEE - 22013542
- ☐ **Potash**
- ☑ **Oil Shale 190-5**
- ☐ **Oil Shale 190-3**
- ☐ **Oil Shale 190-13**
- ☑ **Water Permit:** Permit #43-8496
- ☐ **RDCC Review:**
- ☐ **Fee Surface Agreement**
- ☑ **Intent to Commingle**

Commingling Approved

LOCATION AND SITING:

- ☐ **R649-2-3.**

Unit: NATURAL BUTTES

- ☐ **R649-3-2. General**
- ☐ **R649-3-3. Exception**
- ☑ **Drilling Unit**

Board Cause No: Cause 173-14

Effective Date: 12/2/1999

Siting: 460' fr u boundary and uncommited tract

- ☑ **R649-3-11. Directional Drill**

Comments: Presite Completed

Stipulations:

3 - Commingling - ddoucet
5 - Statement of Basis - bhill
15 - Directional - dmason
17 - Oil Shale 190-5(b) - dmason
25 - Surface Casing - ddoucet

GARY R. HERBERT
Governor
GREGORY S. BELL
Lieutenant Governor

State of Utah
DEPARTMENT OF NATURAL RESOURCES
MICHAEL R. STYLER
Executive Director
Division of Oil, Gas and Mining
JOHN R. BAZA
Division Director

Permit To Drill

****

Well Name: NBU 1021-1O3AS
API Well Number: 43047508540000
Lease Number: ML 23612
Surface Owner: STATE
Approval Date: 2/16/2010

Issued to:
KERR-MCGEE OIL & GAS ONSHORE, L.P., P.O. Box 173779, Denver, CO 80217

Authority:
Pursuant to Utah Code Ann. §40-6-1 et seq., and Utah Administrative Code R649-3-1 et seq., the Utah Division of Oil, Gas and Mining issues conditions of approval, and permit to drill the listed well. This permit is issued in accordance with the requirements of Cause 173-14. The expected producing formation or pool is the WASATCH-MESA VERDE Formation(s), completion into any other zones will require filing a Sundry Notice (Form 9). Completion and commingling of more than one pool will require approval in accordance with R649-3-22.

Duration:
This approval shall expire one year from the above date unless substantial and continuous operation is underway, or a request for extension is made prior to the expiration date

Commingle:
In accordance with Board Cause No. 173-14, commingling of the production from the Wasatch formation and the Mesaverde formation in this well is allowed.

General:
Compliance with the requirements of Utah Admin. R. 649-1 et seq., the Oil and Gas Conservation General Rules, and the applicable terms and provisions of the approved Application for permit to drill.

Conditions of Approval:
In accordance with Utah Admin. R.649-3-11, Directional Drilling, the operator shall submit a complete angular deviation and directional survey report to the Division within 30 days following completion of the well.

In accordance with the Order in Cause No. 190-5(b) dated October 28, 1982, the operator shall comply with the requirements of Rules R649-3-31 and R649-3-27 pertaining to Designated Oil Shale Areas. Additionally, the operators shall ensure that the surface and or production casing is properly cemented over the entire oil shale section as defined by Rule R649-3-31. The Operator shall report the actual depth the oil shale is encountered to the division.

Compliance with the Conditions of Approval/Application for Permit to Drill outlined in the Statement of Basis (copy attached).

Surface casing shall be cemented to the surface.

Additional Approvals:
The operator is required to obtain approval from the Division of Oil, Gas and mining before performing any of the following actions during the drilling of this well:

- Any changes to the approved drilling plan – contact Dustin Doucet
- Significant plug back of the well – contact Dustin Doucet
- Plug and abandonment of the well – contact Dustin Doucet

Notification Requirements:
The operator is required to notify the Division of Oil, Gas and Mining of the following actions during drilling of this well:

- Within 24 hours following the spudding of the well – contact Carol Daniels
  OR
  submit an electronic sundry notice (pre-registration required) via the Utah Oil & Gas website at https://oilgas.ogm.utah.gov
- 24 hours prior to testing blowout prevention equipment - contact Dan Jarvis
- 24 hours prior to cementing or testing casing – contact Dan Jarvis
- Within 24 hours of making any emergency changes to the approved drilling program – contact Dustin Doucet
- 24 hours prior to commencing operations to plug and abandon the well – contact Dan Jarvis

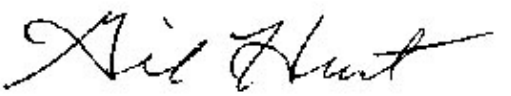
Contact Information:
The following are Division of Oil, Gas and Mining contacts and their telephone numbers (please leave a voicemail message if the person is not available to take the call):

- Carol Daniels 801-538-5284 - office
- Dustin Doucet 801-538-5281 - office
  801-733-0983 - after office hours
- Dan Jarvis 801-538-5338 - office
  801-231-8956 - after office hours

Reporting Requirements:
All reports, forms and submittals as required by the Utah Oil and Gas Conservation General Rules will be promptly filed with the Division of Oil, Gas and Mining, including but not limited to:

- Entity Action Form (Form 6) – due within 5 days of spudding the well
- Monthly Status Report (Form 9) – due by 5th day of the following calendar month
- Requests to Change Plans (Form 9) – due prior to implementation
- Written Notice of Emergency Changes (Form 9) – due within 5 days
- Notice of Operations Suspension or Resumption (Form 9) – due prior to implementation
- Report of Water Encountered (Form 7) – due within 30 days after completion
- Well Completion Report (Form 8) – due within 30 days after completion or plugging

Approved By:



Gil Hunt
Associate Director, Oil & Gas

API Well No: 43047508540000

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS, AND MINING

FORM 9

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.

5.LEASE DESIGNATION AND SERIAL NUMBER: ML 23612

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

7.UNIT or CA AGREEMENT NAME: NATURAL BUTTES

1. TYPE OF WELL Gas Well

8. WELL NAME and NUMBER: NBU 1021-1O3AS

2. NAME OF OPERATOR: KERR-MCGEE OIL & GAS ONSHORE, L.P.

9. API NUMBER: 43047508540000

3. ADDRESS OF OPERATOR: P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779

PHONE NUMBER: 720 929-6007 Ext

9. FIELD and POOL or WILDCAT: NATURAL BUTTES

4. LOCATION OF WELL
FOOTAGES AT SURFACE: 0393 FSL 2439 FEL
QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: Qtr/Qtr: SWSE Section: 1 Township: 10.0S Range: 21.0E Meridian: S

COUNTY: UINTAH

STATE: UTAH

11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION		
✓ NOTICE OF INTENT Approximate date work will start: 4/12/2010	☐ ACIDIZE	☐ ALTER CASING	☐ CASING REPAIR
☐ SUBSEQUENT REPORT Date of Work Completion:	✓ CHANGE TO PREVIOUS PLANS	☐ CHANGE TUBING	☐ CHANGE WELL NAME
☐ SPUD REPORT Date of Spud:	☐ CHANGE WELL STATUS	☐ COMMINGLE PRODUCING FORMATIONS	☐ CONVERT WELL TYPE
☐ DRILLING REPORT Report Date:	☐ DEEPEN	☐ FRACTURE TREAT	☐ NEW CONSTRUCTION
	☐ OPERATOR CHANGE	☐ PLUG AND ABANDON	☐ PLUG BACK
	☐ PRODUCTION START OR RESUME	☐ RECLAMATION OF WELL SITE	☐ RECOMPLETE DIFFERENT FORMATION
	☐ REPERFORATE CURRENT FORMATION	☐ SIDETRACK TO REPAIR WELL	☐ TEMPORARY ABANDON
	☐ TUBING REPAIR	☐ VENT OR FLARE	☐ WATER DISPOSAL
	☐ WATER SHUTOFF	☐ SI TA STATUS EXTENSION	☐ APD EXTENSION
	☐ WILDCAT WELL DETERMINATION	☐ OTHER	OTHER:

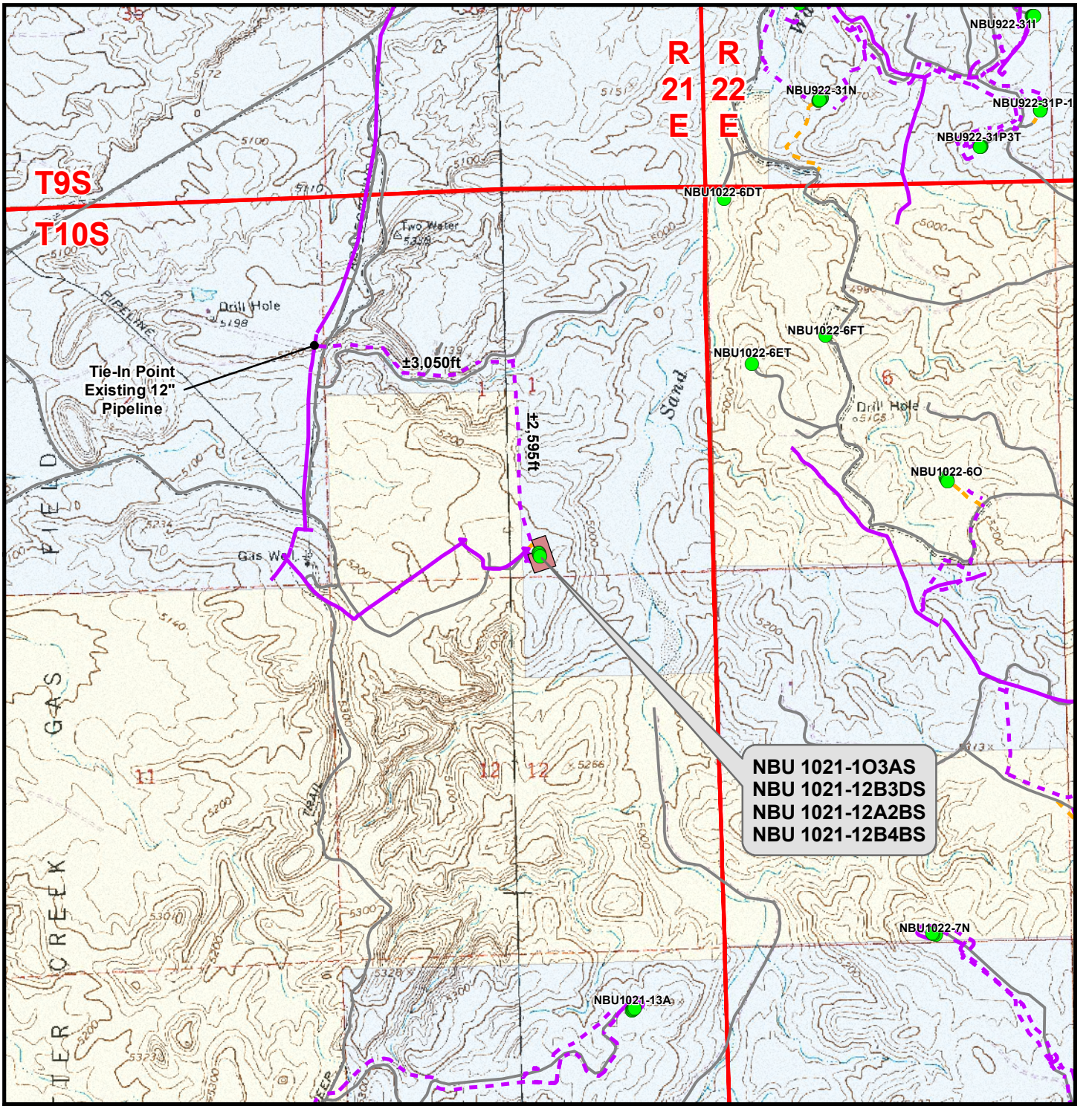
12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.

Kerr-McGee Oil & Gas Onshore LP (Kerr-McGee) respectfully requests to change the size of the pipeline for this location. The ±2,595' potion of pipeline that is traveling northerly from the well pad will be a buried 6" pipeline and the ±3,050' portion of pipeline traveling westerly to the tie in point will be a buried 10" pipeline. The pipeline will follow the same route as detailed in the sundry notice accepted for record on March 23, 2010. Please see the attached pipeline plat for additional details. Please contact the undersigned with any questions and/or comments. Thank you.

Accepted by the Utah Division of Oil, Gas and Mining
FOR RECORD ONLY
April 08, 2010

NAME (PLEASE PRINT)	PHONE NUMBER	TITLE
Danielle Piernot	720 929-6156	Regulatory Analyst
SIGNATURE N/A		**DATE** 4/8/2010

RECEIVED April 08, 2010



Legend

Proposed Pipeline Length From Tie-In Point To Edge Of Pad: ±5,645ft
Proposed Pipeline Length Around Pad: ±660ft

Well - Proposed | Well Pad | Road - Proposed | Pipeline - Proposed | Bureau of Land Management | State
Road - Existing | Pipeline - Existing | Indian Reservation | Private

Kerr-McGee Oil & Gas Onshore, LP
1099 18th Street, Denver, Colorado 80202

Well Pad - NBU 1021-1O

NBU 1021-1O3AS, NBU 1021-12B3DS, NBU 1021-12A2BS & NBU 1021-12B4BS
Topo D
Located In Section 1, T10S, R21E
S.L.B.&M., Uintah County, Utah

609 CONSULTING, LLC
371 Coffeen Avenue
Sheridan, WY 82801
Phone (307) 674-0609
Fax (307) 674-0182

N

Scale: 1" = 2,000ft	NAD83 USP Central	Sheet No: 12	12 of 13
Drawn: JELo	Date: 30 June 2009		
Revised: JELo	Date: 12 Feb 2010		

RECEIVED April 08, 2010

API Well No: 43047508540000

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS, AND MINING

FORM 9

5.LEASE DESIGNATION AND SERIAL NUMBER: ML 23612

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

7.UNIT or CA AGREEMENT NAME: NATURAL BUTTES

1. TYPE OF WELL Gas Well

8. WELL NAME and NUMBER: NBU 1021-1O3AS

2. NAME OF OPERATOR: KERR-MCGEE OIL & GAS ONSHORE, L.P.

9. API NUMBER: 43047508540000

3. ADDRESS OF OPERATOR: P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779

PHONE NUMBER: 720 929-6007 Ext

9. FIELD and POOL or WILDCAT: NATURAL BUTTES

4. LOCATION OF WELL
FOOTAGES AT SURFACE: 0393 FSL 2439 FEL
QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: Qtr/Qtr: SWSE Section: 1 Township: 10.0S Range: 21.0E Meridian: S

COUNTY: UINTAH

STATE: UTAH

11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION		
✓ NOTICE OF INTENT Approximate date work will start: 3/25/2010	☐ ACIDIZE	☐ ALTER CASING	☐ CASING REPAIR
	✓ CHANGE TO PREVIOUS PLANS	☐ CHANGE TUBING	☐ CHANGE WELL NAME
	☐ CHANGE WELL STATUS	☐ COMMINGLE PRODUCING FORMATIONS	☐ CONVERT WELL TYPE
☐ SUBSEQUENT REPORT Date of Work Completion:	☐ DEEPEN	☐ FRACTURE TREAT	☐ NEW CONSTRUCTION
	☐ OPERATOR CHANGE	☐ PLUG AND ABANDON	☐ PLUG BACK
	☐ PRODUCTION START OR RESUME	☐ RECLAMATION OF WELL SITE	☐ RECOMPLETE DIFFERENT FORMATION
☐ SPUD REPORT Date of Spud:	☐ REPERFORATE CURRENT FORMATION	☐ SIDETRACK TO REPAIR WELL	☐ TEMPORARY ABANDON
	☐ TUBING REPAIR	☐ VENT OR FLARE	☐ WATER DISPOSAL
☐ DRILLING REPORT Report Date:	☐ WATER SHUTOFF	☐ SI TA STATUS EXTENSION	☐ APD EXTENSION
	☐ WILDCAT WELL DETERMINATION	✓ OTHER	OTHER: Pipeline re-route

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.

Kerr-McGee Oil & Gas Onshore LP (KMG) respectfully requests to re-route the proposed pipeline for this well in order to remain on state land. Please see the attached revised survey plats and SUPO for additional details. All other information remains the same. Please contact the undersigned with any questions and/or comments. Thank you.

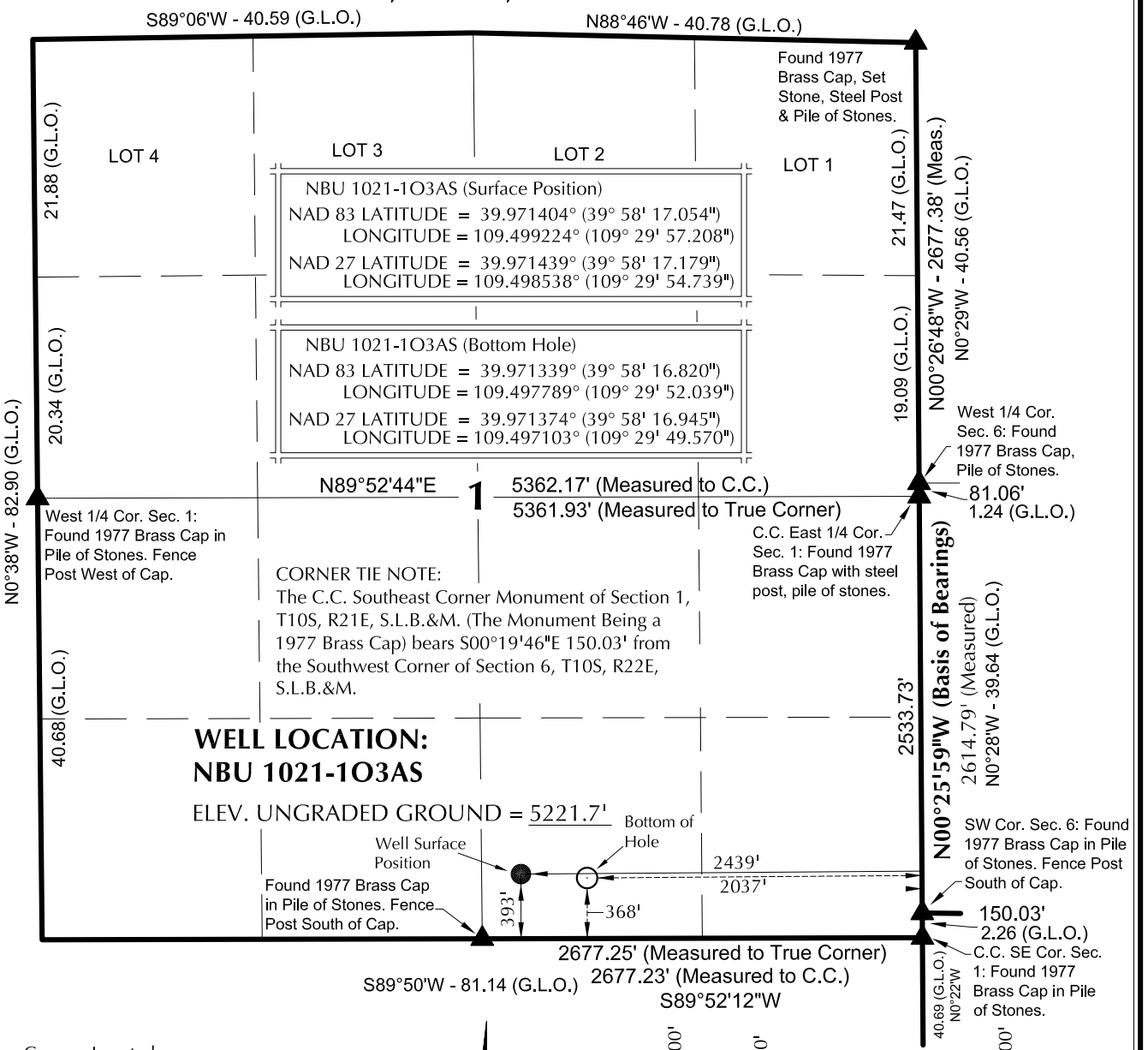
Accepted by the Utah Division of Oil, Gas and Mining

FOR RECORD ONLY

March 23, 2010

NAME (PLEASE PRINT)	PHONE NUMBER	TITLE
Danielle Piernot	720 929-6156	Regulatory Analyst
SIGNATURE N/A		**DATE** 3/22/2010

T10S, R21E, S.L.B.&M.



SCALE

NOTES:

▲ = Section Corners Located

1. Well footages are measured at right angles to the Section Lines.
2. G.L.O. distances are shown in feet or chains. 1 chain = 66 feet.
3. The Bottom of hole bears S86°36'23"E 403.22' from the Surface Position.
4. Bearings are based on Global Positioning Satellite observations.
5. Basis of elevation is Tri-Sta "Two Water" located in the NW $\frac{1}{4}$ of Section 1, T10S, R21E, S.L.B.&M. The elevation of this Tri-Sta is shown on the Big Pack Mtn NE 7.5 Min. Quadrangle as being 5238'.

SURVEYOR'S CERTIFICATE

THIS IS TO CERTIFY THAT THE ABOVE PLAT WAS PREPARED FROM FIELD NOTES OF ACTUAL SURVEYS MADE BY ME OR UNDER MY SUPERVISION AND THAT THE SAME ARE TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

REGISTERED LAND SURVEYOR
REGISTRATION No. 6028691
STATE OF UTAH

LAND SURVEYOR — No.6028691 JOHN R SLAUGH — PROFESSIONAL — STATE OF UTAH

Kerr-McGee Oil & Gas Onshore, LP
1099 18th Street - Denver, Colorado 80202

WELL PAD - NBU 1021-1O

NBU 1021-1O3AS
WELL PLAT
368' FSL, 2037' FEL (Bottom Hole)
SW $\frac{1}{4}$ SE $\frac{1}{4}$ OF SECTION 1, T10S, R21E, S.L.B.&M., UINTAH COUNTY, UTAH.

609 CONSULTING, LLC
371 Coffeen Avenue
Sheridan WY 82801
Phone 307-674-0609
Fax 307-674-0182

TIMBERLINE (435) 789-1365
ENGINEERING & LAND SURVEYING, INC.
209 NORTH 300 WEST - VERNAL, UTAH 84078

DATE SURVEYED: 06-24-09	SURVEYED BY: D.J.S.	SHEET NO: 1
DATE DRAWN: 06-25-09	DRAWN BY: M.W.W.	1 OF 13
SCALE: 1" = 1000'	Date Last Revised: 2-12-10 M.W.W.	

LATITUDE & LONGITUDE Surface Position - (NAD 83)		
WELL	N. LATITUDE	W. LONGITUDE
NBU 1021-1O3AS	39°58'17.054" 39.971404°	109°29'57.208" 109.499224°
NBU 1021-12B3DS	39°58'16.866" 39.971352°	109°29'57.131" 109.499203°
NBU 1021-12A2BS	39°58'16.678" 39.971299°	109°29'57.051" 109.499181°
NBU 1021-12B4BS	39°58'16.491" 39.971247°	109°29'56.973" 109.499159°
NBU 1021-1O Existing Well	39°58'15.586" 39.970996°	109°29'59.497" 109.499860°

LATITUDE & LONGITUDE Bottom Hole - (NAD 83)		
WELL	N. LATITUDE	W. LONGITUDE
NBU 1021-1O3AS	39°58'16.820" 39.971339°	109°29'52.039" 109.497789°
NBU 1021-12B3DS	39°58'01.718" 39.967144°	109°29'54.646" 109.498513°
NBU 1021-12A2BS	39°58'09.870" 39.969408°	109°29'39.560" 109.494322°
NBU 1021-12B4BS	39°58'04.329" 39.967869°	109°29'48.208" 109.496725°

RELATIVE COORDINATES From Surface Position to Bottom Hole		
WELL	NORTH	EAST
NBU 1021-1O3AS	-24'	403'
NBU 1021-12B3DS	-1,533'	193'
NBU 1021-12A2BS	-690'	1,362'
NBU 1021-12B4BS	-1,231'	682'

BASIS OF BEARINGS IS THE WEST LINE OF THE NW 1/4 OF SECTION 7, T10S, R22E, S.L.B.&M. WHICH IS TAKEN FROM GLOBAL POSITIONING SATELLITE OBSERVATIONS TO BEAR N00°20'13"W.

N17°44'08"W
Az=342.26444°

NBU 1021-1O3AS
Az. to Exist. W.H.=230.21083° 232.1'

NBU 1021-12B3DS
Az. to Exist. W.H.=234.90111° 225.3'

NBU 1021-12A2BS
Az. to Exist. W.H.=239.89694° 220.2'

NBU 1021-12B4BS
Az. to Exist. W.H.=245.03778° 216.8'

20'
20'
20'

Az=93.39361°
S86°36'23"E - 403.22'
(To Bottom Hole)

Az=116.85667°
S63°08'36"E - 1526.49'
(To Bottom Hole)

Az=172.82944°
S07°10'14"E - 1545.43'
(To Bottom Hole)

Az=151.01250°
S28°59'15"E - 1407.51'
(To Bottom Hole)

SURFACE POSITION FOOTAGES:

NBU 1021-1O3AS
393' FSL & 2439' FEL

NBU 1021-12B3DS
374' FSL & 2433' FEL

NBU 1021-12A2BS
355' FSL & 2427' FEL

NBU 1021-12B4BS
336' FSL & 2422' FEL

NBU 1021-1O EXISTING WELL
245' FSL & 2619' FEL

BOTTOM HOLE FOOTAGES

NBU 1021-1O3AS
368' FSL & 2037' FEL

NBU 1021-12B3DS
1160' FNL & 2250' FEL

NBU 1021-12A2BS
338' FNL & 1070' FEL

NBU 1021-12B4BS
897' FNL & 1747' FEL

◉ EXISTING WELL: NBU 1021-1O

LATITUDE & LONGITUDE Surface Position - (NAD 27)		
WELL	N. LATITUDE	W. LONGITUDE
NBU 1021-1O3AS	39°58'17.179" 39.971439°	109°29'54.739" 109.498538°
NBU 1021-12B3DS	39°58'16.992" 39.971387°	109°29'54.662" 109.498517°
NBU 1021-12A2BS	39°58'16.803" 39.971334°	109°29'54.582" 109.498495°
NBU 1021-12B4BS	39°58'16.616" 39.971282°	109°29'54.504" 109.498473°
NBU 1021-1O Existing Well	39°58'15.711" 39.971031°	109°29'57.027" 109.499174°

LATITUDE & LONGITUDE Bottom Hole - (NAD 27)		
WELL	N. LATITUDE	W. LONGITUDE
NBU 1021-1O3AS	39°58'16.945" 39.971374°	109°29'49.570" 109.497103°
NBU 1021-12B3DS	39°58'01.843" 39.967179°	109°29'52.177" 109.497827°
NBU 1021-12A2BS	39°58'09.995" 39.969443°	109°29'37.092" 109.493637°
NBU 1021-12B4BS	39°58'04.455" 39.967904°	109°29'45.740" 109.496039°

N

60' 30' 0' 60'

SCALE

Kerr-McGee Oil & Gas Onshore, LP
1099 18th Street - Denver, Colorado 80202

WELL PAD - NBU 1021-1O

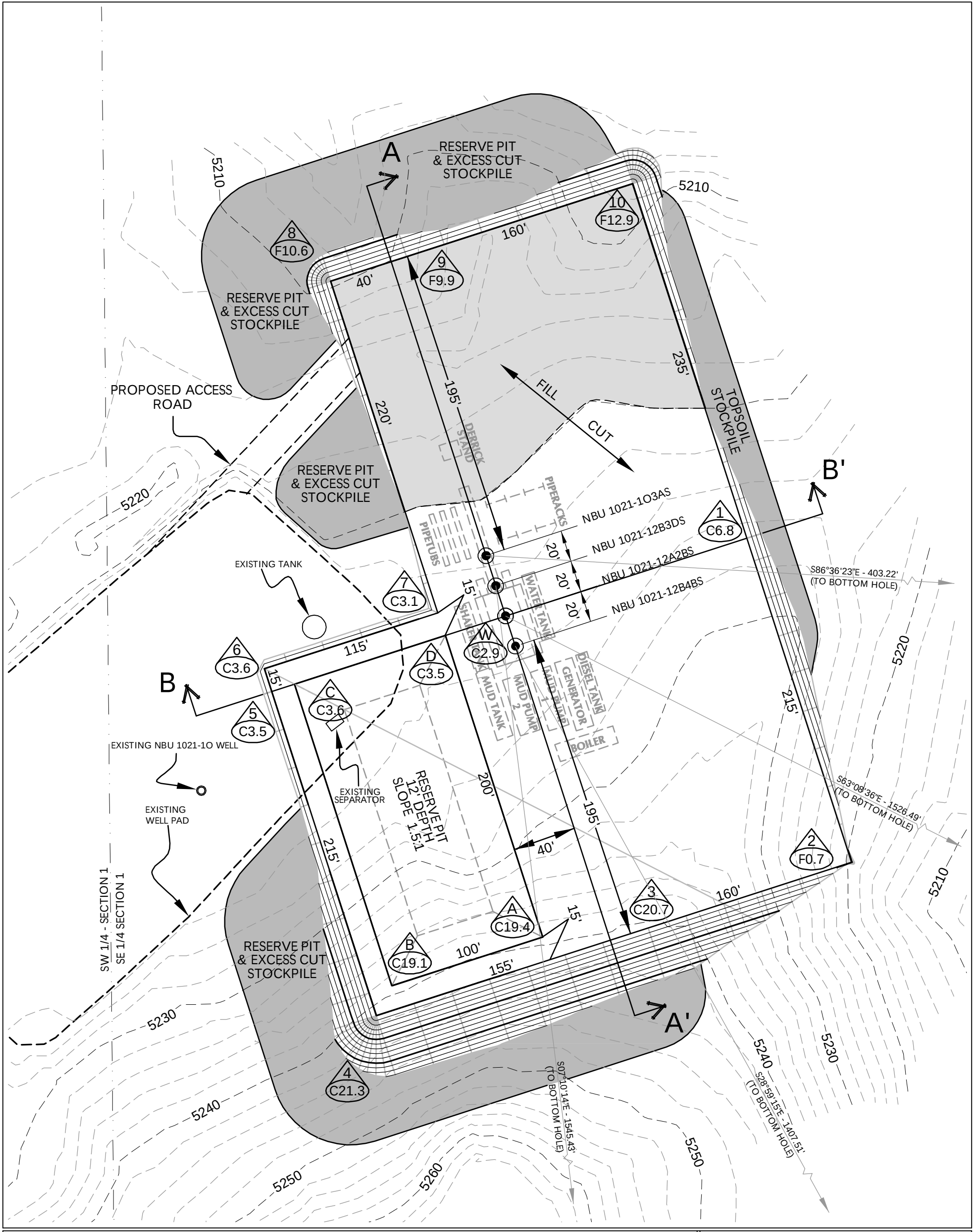
WELL PAD INTERFERENCE PLAT
NBU 1021-1O3AS, NBU 1021-12B3DS, NBU 1021-12A2BS & NBU 1021-12B4BS
LOCATED IN SECTION 1, T10S, R21E, S.L.B.&M., UINTAH COUNTY, UTAH.

609 CONSULTING, LLC
371 Coffeen Avenue
Sheridan WY 82801
Phone 307-674-0609
Fax 307-674-0182

TIMBERLINE (435) 789-1365
ENGINEERING & LAND SURVEYING, INC.
209 NORTH 300 WEST - VERNAL, UTAH 84078

DATE SURVEYED: 06-24-09	SURVEYED BY: D.J.S.	SHEET NO: 5
DATE DRAWN: 06-26-09	DRAWN BY: M.W.W.	5 OF 13
SCALE: 1" = 60'	Date Last Revised: 02-12-10 M.W.W.	

RECEIVED March 22, 2010



WELL PAD - NBU 1021-1O DESIGN SUMMARY

EXISTING GRADE @ CENTER OF WELL PAD = 5222.9'
FINISHED GRADE ELEVATION = 5220.0'
CUT SLOPES = 1.5:1
FILL SLOPES = 1.5:1
TOTAL WELL PAD AREA = 3.16 ACRES
TOTAL DAMAGE AREA = 5.72 ACRES
SHRINKAGE FACTOR = 1.10
SWELL FACTOR = 1.00

WELL PAD QUANTITIES

TOTAL CUT FOR WELL PAD = 27,799 C.Y.
TOTAL FILL FOR WELL PAD = 5,780 C.Y.
TOPSOIL @ 6" DEPTH = 2,441 C.Y.
EXCESS MATERIAL = 22,019 C.Y.

RESERVE PIT QUANTITIES

TOTAL CUT FOR RESERVE PIT
+/- 6,680 CY
RESERVE PIT CAPACITY (2' OF FREEBOARD)
+/- 25,330 BARRELS

WELL PAD LEGEND

- EXISTING WELL LOCATION
- PROPOSED WELL LOCATION
- PROPOSED BOTTOM HOLE LOCATION
- EXISTING CONTOURS (2' INTERVAL)
- PROPOSED CONTOURS (2' INTERVAL)

HORIZONTAL 0 30 60 1" = 60'
2' CONTOURS

Kerr-McGee Oil & Gas Onshore, LP
1099 18th Street - Denver, Colorado 80202

WELL PAD - NBU 1021-1O

WELL PAD - LOCATION LAYOUT
NBU 1021-1O3AS, NBU 1021-12B3DS
NBU 1021-12A2BS & NBU 1021-12B4BS
LOCATED IN SECTION 1, T10S, R21E
S.L.B.&M., UINTAH COUNTY, UTAH

609 CONSULTING, LLC
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Sheridan, WY 82801
Phone 307-674-0609
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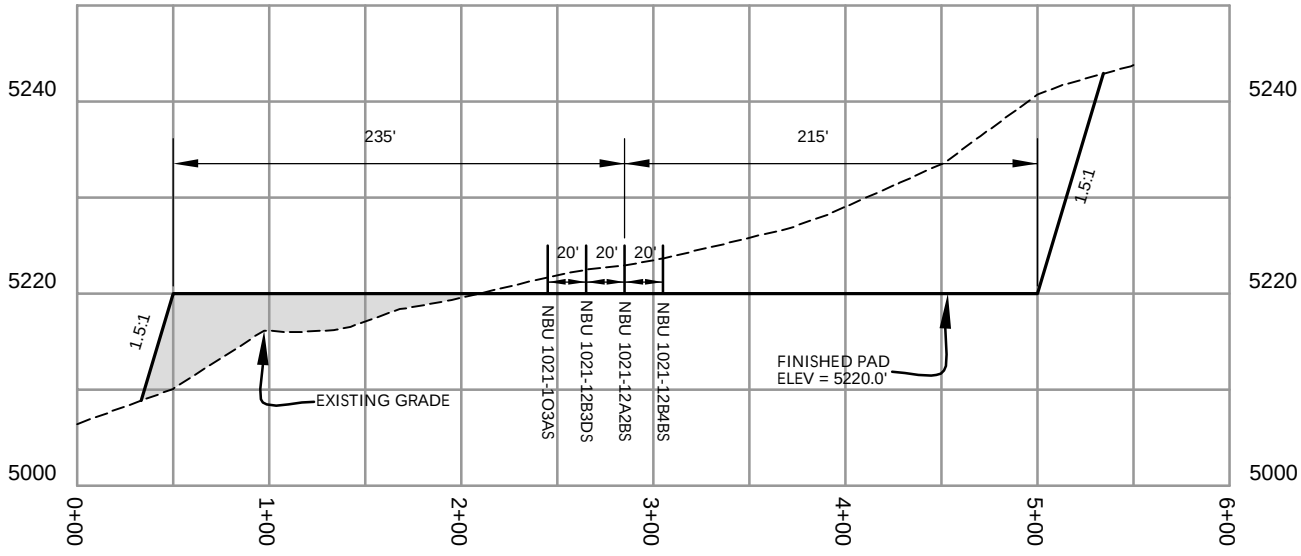
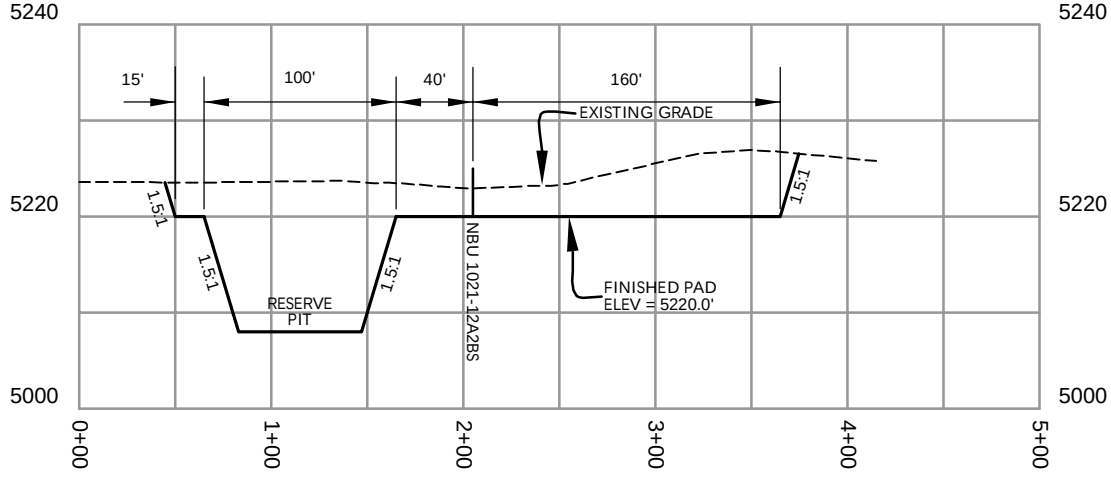
TIMBERLINE (435) 789-1365
ENGINEERING & LAND SURVEYING, INC.
209 NORTH 300 WEST - VERNAL, UTAH 84078

Scale: 1"=60'	Date: 6/30/09	SHEET NO:
REVISED:	SEA 2/12/10	6 6 OF 13

K:\ANADARKO\2009_11_NBU_Directional_UELS_Edits\DWGS\NBU 1021-01O\NBU 1021-01O.dwg, 2/12/2010 5:45:59 PM, PDF-XChange for AcroPlot Pro



CROSS SECTION A-A'



CROSS SECTION B-B'

NOTE: CROSS SECTION B-B' DEPICTS MAXIMUM RESERVE PIT DEPTH.

HORIZONTAL 0 50 100 1" = 100'

VERTICAL 0 10 20 1" = 20'

Kerr-McGee Oil & Gas Onshore, LP
1099 18th Street - Denver, Colorado 80202

WELL PAD - NBU 1021-1O

WELL PAD - CROSS SECTIONS
NBU 1021-1O3AS, NBU 1021-12B3DS
NBU 1021-12A2BS & NBU 1021-12B4BS
LOCATED IN SECTION 1, T10S, R21E
S.L.B.&M., UINTAH COUNTY, UTAH

609 CONSULTING, LLC
371 Coffeen Avenue
Sheridan, WY 82801
Phone 307-674-0609
Fax 307-674-0182

TIMBERLINE (435) 789-1365
ENGINEERING & LAND SURVEYING, INC.
209 NORTH 300 WEST - VERNAL, UTAH 84078

Scale: 1"=100' Date: 6/30/09 SHEET NO: 7

REVISED: SEA 2/12/10 7 OF 13

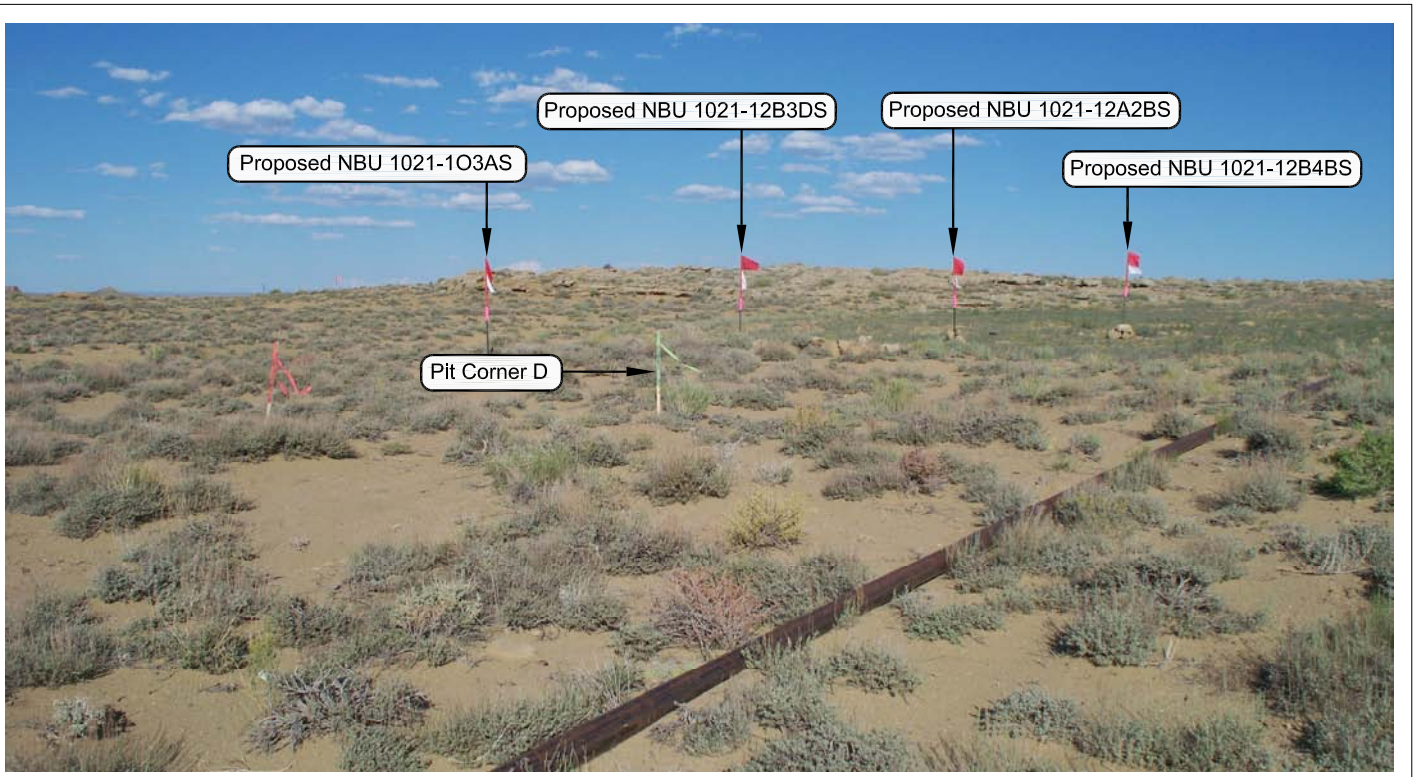


PHOTO VIEW: FROM PIT CORNER D TO LOCATION STAKE CAMERA ANGLE: SOUTHEASTERLY

PHOTO VIEW: FROM BEGINNING OF PROPOSED ROAD CAMERA ANGLE: NORTHEASTERLY

Kerr-McGee Oil & Gas Onshore, LP
1099 18th Street - Denver, Colorado 80202

Well Pad - NBU 1021-1O

NBU 1021-1O3AS, NBU 1021-12B3DS, NBU 1021-12A2BS & NBU 1021-12B4BS LOCATION PHOTOS LOCATED IN SECTION 1, T10S, R21E, S.L.B.&M., UINTAH COUNTY, UTAH.

609 CONSULTING, LLC
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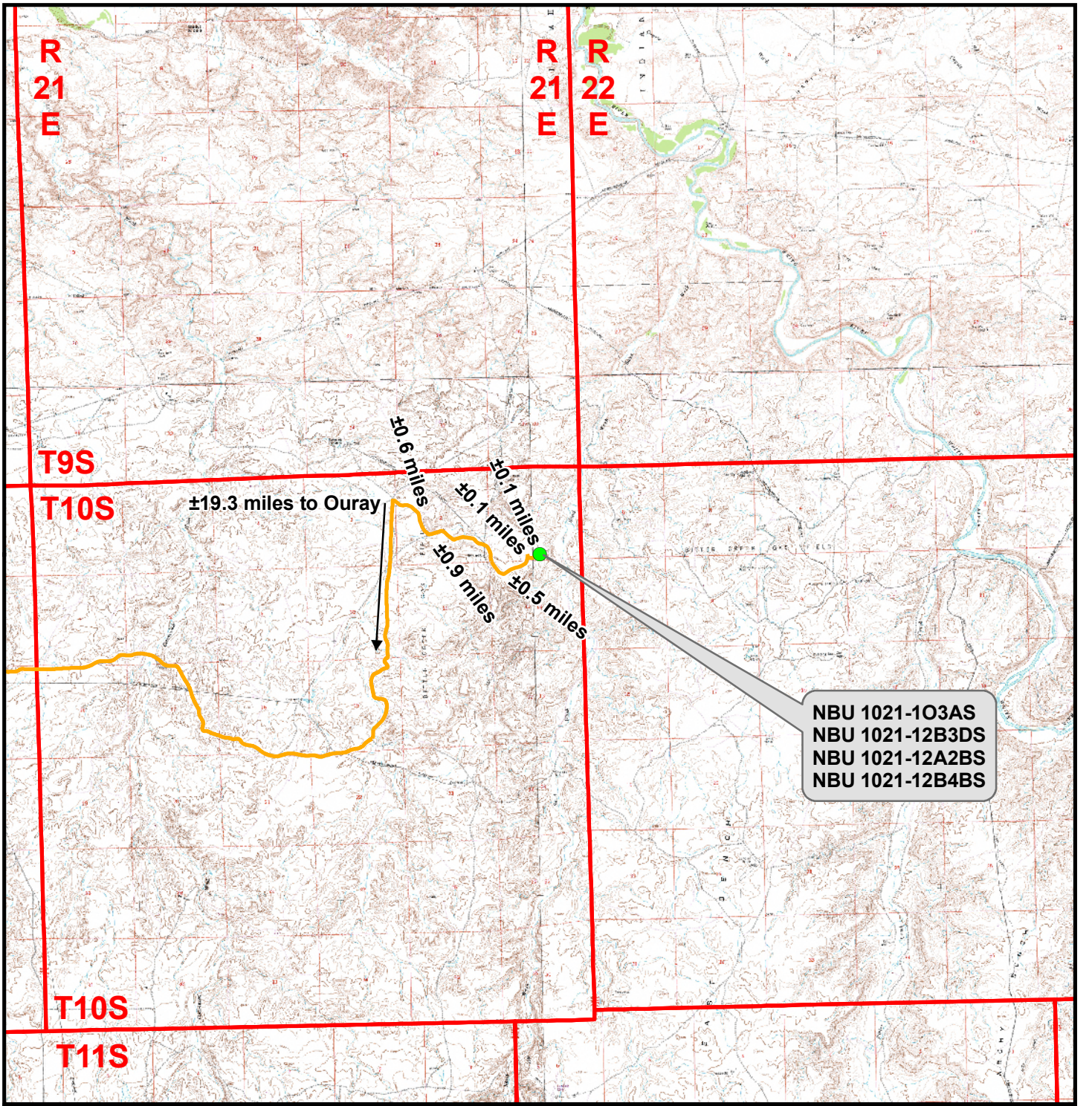
Sheridan WY 82801
Phone 307-674-0609
Fax 307-674-0182

TIMBERLINE (435) 789-1365
ENGINEERING & LAND SURVEYING, INC.
209 NORTH 300 WEST - VERNAL, UTAH 84078

DATE PHOTOS TAKEN: 06-24-09	PHOTOS TAKEN BY: D.J.S.	SHEET NO: 8
DATE DRAWN: 06-29-09	DRAWN BY: M.W.W.	8 OF 13
Date Last Revised: 2-12-10 M.W.W.		



Legend

- Proposed Well Location
- Access Route - Proposed

Kerr-McGee Oil & Gas Onshore, LP
1099 18th Street, Denver, Colorado 80202

Well Pad - NBU 1021-1O

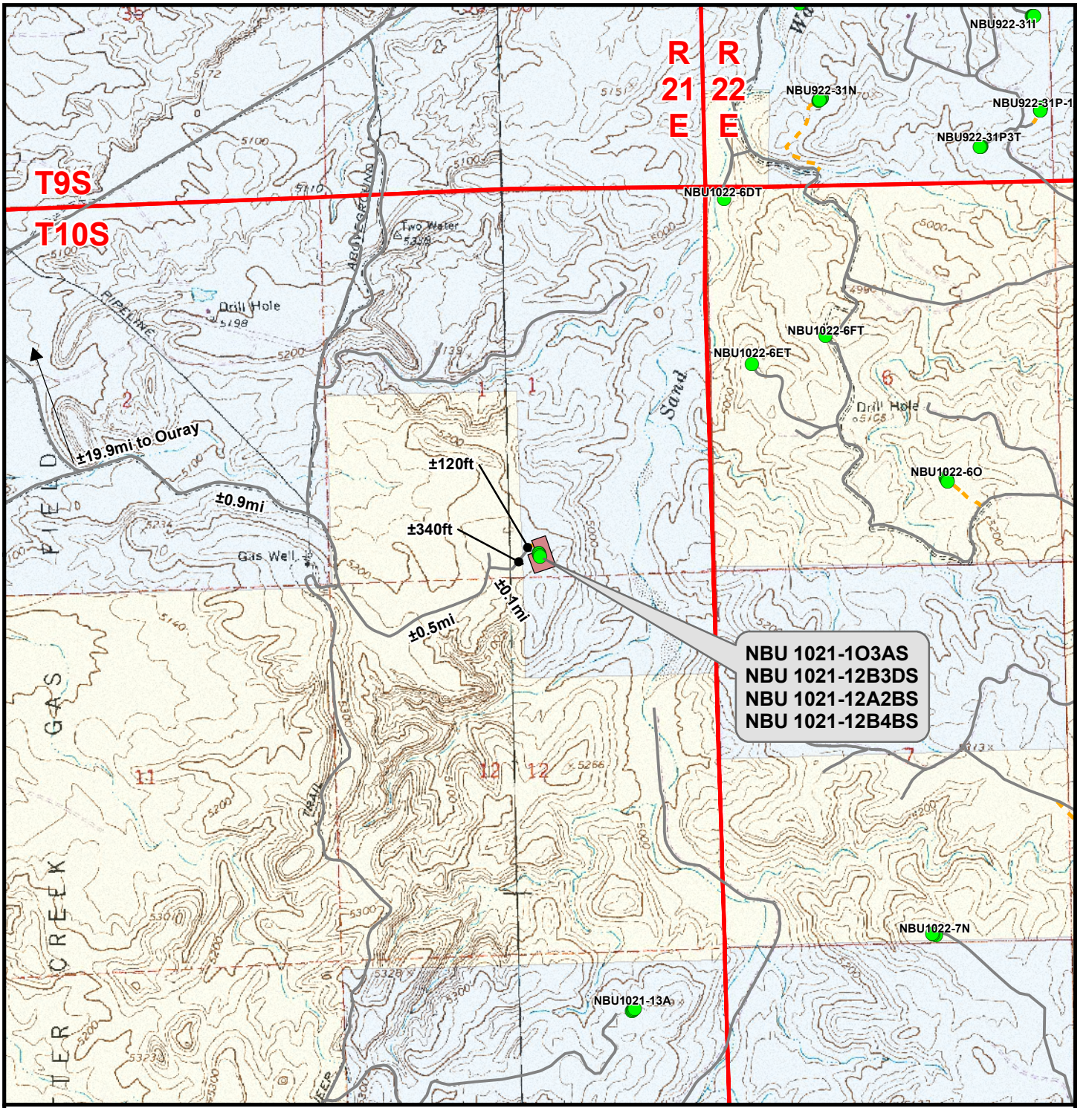
NBU 1021-1O3AS, NBU 1021-12B3DS, NBU 1021-12A2BS & NBU 1021-12B4BS
Topo A
Located In Section 1, T10S, R21E
S.L.B.&M., Uintah County, Utah

609 CONSULTING, LLC
371 Coffeen Avenue
Sheridan, WY 82801
Phone (307) 674-0609
Fax (307) 674-0182

N

Scale: 1:100,000	NAD83 USP Central	Sheet No: 9	9 of 13
Drawn: JELo	Date: 30 June 2009		
Revised: JELo	Date: 12 Feb 2010		

RECEIVED March 22, 2010



Legend

Total Proposed Road Length: ±120ft

Well - Proposed | Well Pad | Road - Proposed | Bureau of Land Management | State
Road - Existing | Indian Reservation | Private

Kerr-McGee Oil & Gas Onshore, LP
1099 18th Street, Denver, Colorado 80202

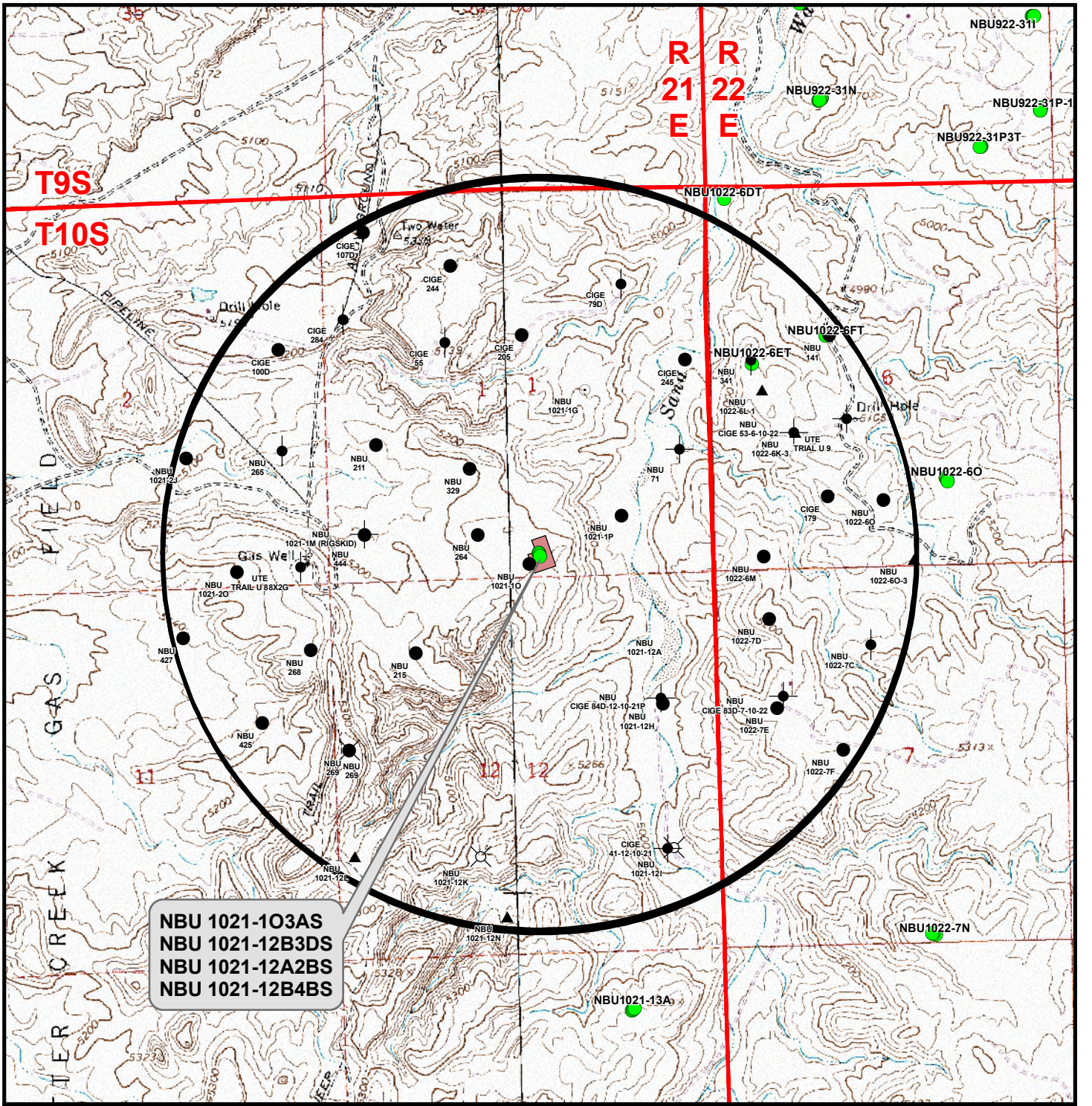
Well Pad - NBU 1021-1O

NBU 1021-1O3AS, NBU 1021-12B3DS, NBU 1021-12A2BS & NBU 1021-12B4BS
Topo B
Located In Section 1, T10S, R21E
S.L.B.&M., Uintah County, Utah

609 CONSULTING, LLC
371 Coffeen Avenue
Sheridan, WY 82801
Phone (307) 674-0609
Fax (307) 674-0182

N

Scale: 1" = 2,000ft	NAD83 USP Central	Sheet No: 10	10 of 13
Drawn: JELo	Date: 30 June 2009		
Revised: JELo	Date: 12 Feb 2010		



Legend

Well locations derived from State of Utah, Dept. of Natural Resources, Division of Oil, Gas and Mining

- Well - Proposed
- Well - 1 Mile Radius
- Well Pad
- Producing
- Approved permit (APD); not yet spudded
- Spudded (Drilling commenced: Not yet comple
- Location Abandoned
- Temporarily-Abandoned
- Plugged and Abandoned
- Shut-In

Kerr-McGee Oil & Gas Onshore, LP
1099 18th Street, Denver, Colorado 80202

Well Pad - NBU 1021-1O

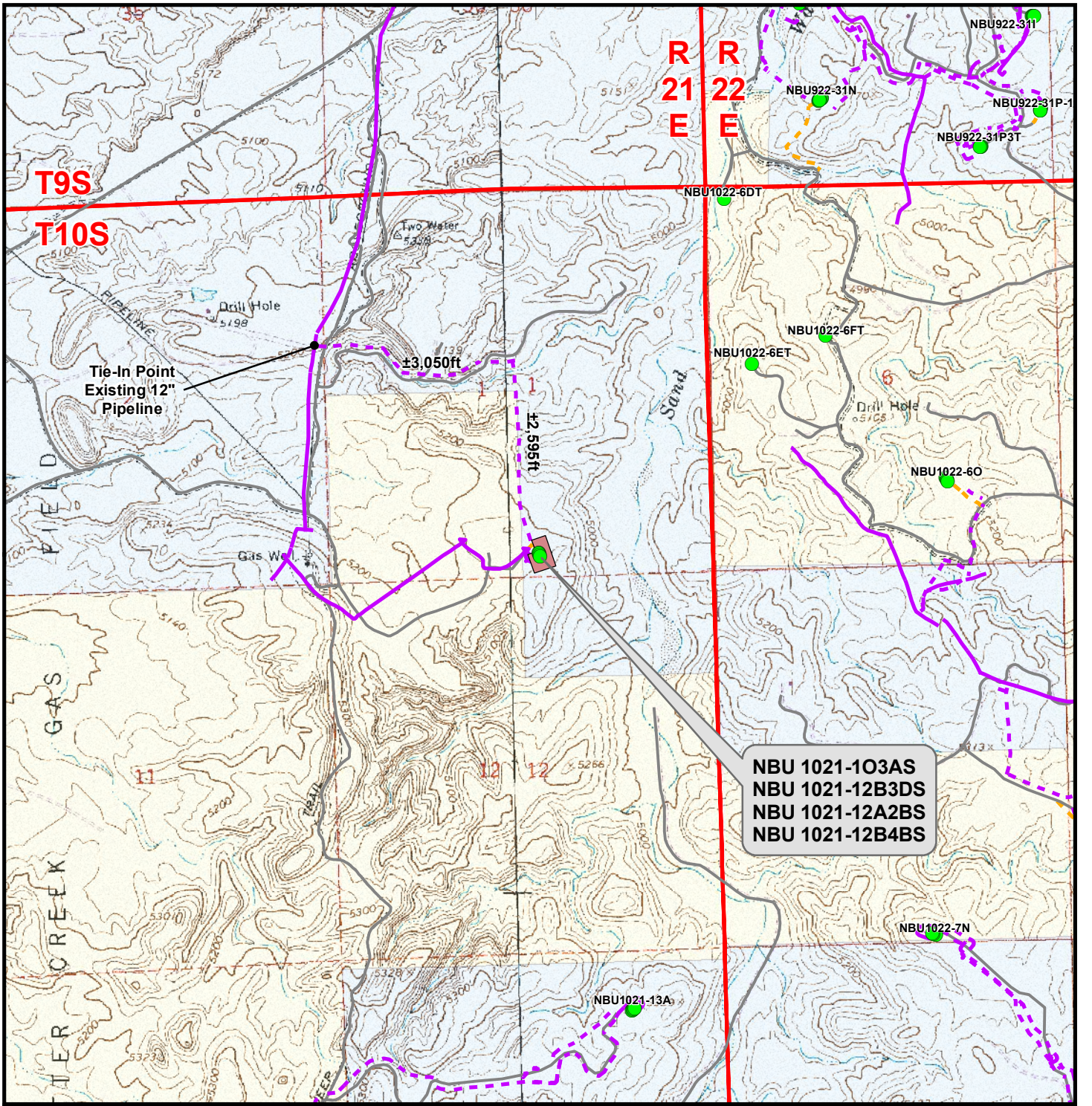
NBU 1021-1O3AS, NBU 1021-12B3DS, NBU 1021-12A2BS & NBU 1021-12B4BS
Topo C
Located In Section 1, T10S, R21E
S.L.B.&M., Uintah County, Utah

609 CONSULTING, LLC
371 Coffeen Avenue
Sheridan, WY 82801
Phone (307) 674-0609
Fax (307) 674-0182

N

Scale: 1" = 2,000ft	NAD83 USP Central	Sheet No: 11	11 of 13
Drawn: JELo	Date: 30 June 2009		
Revised: JELo	Date: 12 Feb 2010		

RECEIVED March 22, 2010



Legend

Well - Proposed | Well Pad | Road - Proposed | Pipeline - Proposed | Bureau of Land Management | State
Road - Existing | Pipeline - Existing | Indian Reservation | Private

Proposed Pipeline Length From Tie-In Point To Edge Of Pad: ±5,645ft
Proposed Pipeline Length Around Pad: ±660ft

Kerr-McGee Oil & Gas Onshore, LP
1099 18th Street, Denver, Colorado 80202

Well Pad - NBU 1021-1O

NBU 1021-1O3AS, NBU 1021-12B3DS, NBU 1021-12A2BS & NBU 1021-12B4BS
Topo D
Located In Section 1, T10S, R21E
S.L.B.&M., Uintah County, Utah

609 CONSULTING, LLC
371 Coffeen Avenue
Sheridan, WY 82801
Phone (307) 674-0609
Fax (307) 674-0182

N

Scale: 1" = 2,000ft	NAD83 USP Central	Sheet No: 12	12 of 13
Drawn: JELo	Date: 30 June 2009		
Revised: JELo	Date: 12 Feb 2010		

RECEIVED March 22, 2010

Kerr-McGee Oil & Gas Onshore, LP
WELL PAD - NBU 1021-1O
WELLS – NBU 1021-12B3DS, NBU 1021-12B4BS , NBU 1021-12A2BS & NBU 1021-1O3AS
Section 1, T10S, R21E, S.L.B.&M.

PROCEED IN A WESTERLY DIRECTION FROM VERNAL, UTAH ALONG U.S. HIGHWAY 40 APPROXIMATELY 13.9 MILES TO THE JUNCTION OF STATE HIGHWAY 88. EXIT LEFT AND PROCEED IN A SOUTHERLY DIRECTION ALONG STATE HIGHWAY 88 APPROXIMATELY 16.8 MILES TO OURAY, UTAH. FROM OURAY, PROCEED IN A SOUTHERLY DIRECTION ALONG THE SEEP RIDGE ROAD (COUNTY B ROAD 2810) APPROXIMATELY 11.2 MILES TO THE INTERSECTION OF THE GLEN BENCH ROAD (COUNTY B ROAD 3260). EXIT LEFT AND PROCEED IN AN EASTERLY, THEN SOUTHEASTERLY, THEN NORTHEASTERLY DIRECTION ALONG THE GLEN BENCH ROAD APPROXIMATELY 8.1 MILES TO A CLASS D COUNTY ROAD TO THE SOUTHEAST. EXIT RIGHT AND PROCEED IN A SOUTHEASTERLY DIRECTION 0.6 MILES TO THE WEST SAND WASH ROAD (COUNTY B ROAD 4110). EXIT LEFT AND PROCEED IN AN EASTERLY, THEN SOUTHEASTERLY DIRECTION ALONG THE WEST SAND WASH ROAD APPROXIMATELY 0.9 MILES TO A SERVICE ROAD TO THE SOUTHEAST. EXIT LEFT AND PROCEED IN A SOUTHEASTERLY, THEN NORTHEASTERLY DIRECTION ALONG THE SERVICE ROAD APPROXIMATELY 0.5 MILES TO THE EXISTING ACCESS ROAD FOR THE NBU 1021-1O WELL PAD. EXIT RIGHT AND PROCEED IN AN EASTERLY DIRECTION ALONG THE ACCESS ROAD APPROXIMATELY 0.1 MILES TO THE NBU 1021-1O WELL PAD. PROCEED NORTHEASTERLY APPROXIMATELY 340 FEET CROSSING THE NBU 1021-1O WELL SITE AND TO THE PROPOSED ACCESS ROAD. FOLLOW ROAD FLAGS IN A NORTHEASTERLY DIRECTION APPROXIMATELY 120 FEET TO THE PROPOSED WELL PAD.

TOTAL DISTANCE FROM VERNAL, UTAH TO THE PROPOSED WELL LOCATION IS APPROXIMATELY 52.2 MILES IN A SOUTHERLY DIRECTION.

RECEIVED March 22, 2010

NBU 1021-1O3AS
Surface: 393' FSL 2,439' FEL (SW/4SE/4) Section 1
BHL: 368' FSL 2,037' FEL (SW/4SE/4) Section 1

NBU 1021-12A2BS
Surface: 355' FSL 2,427' FEL (SW/4SE/4) Section 1
BHL: 338' FNL 1,070' FEL (NE/4NE/4) Section 12

NBU 1021-12B3DS
Surface: 374' FSL 2,433' FEL (SW/4SE/4) Section 1
BHL: 1,160' FNL 2,250' FEL (NW/4NE/4) Section 12

NBU 1021-12B4BS
Surface: 336' FSL 2,422' FEL (SW/4SE/4) Section 1
BHL: 897' FNL 1,747' FEL (NW/4NE/4) Section 12

Pad: NBU 1021-1O
T10S R21E
Mineral Lease: ML 23612

Uintah, Utah
Operator: Kerr-McGee Oil & Gas Onshore LP

ONSHORE ORDER NO. 1

MULTI-POINT SURFACE USE & OPERATIONS PLAN SUBMITTED WITH SITE-SPECIFIC INFORMATION

An on-site meeting was held on January 12, 2010. Present were:

- Floyd Bartlett – UDOGM
- Jim Davis - SITLA
- Alex Hansen, Ben Williams – Division of Wildlife Resources (DWR)
- John Slaugh, Mitch Batty – 609 Consulting, LLC
- Clay Einerson, Tony Kazeck, Sheila Wopsock, Raamey Hoopes, Dave Daniels – Kerr- McGee Oil & Gas Onshore LP. (Kerr-McGee)

Directional Drilling:
In accordance with Utah Oil & Gas Conservation Rule R649-3-11 pertaining to Directional Drilling, this well will be directionally drilled in order to access portions of our lease which are otherwise inaccessible due to topography.

A. Existing Roads:

A) Refer to Topo Map A for directions to the location.
B) Refer to Topo Maps A and B for location of access roads within a 2-mile radius.

RECEIVED March 22, 2010

B. **Planned Access Roads:**
See MDP for additional details on road construction.
Approximately ±120' (±0.02 miles) of new access road is proposed. Please refer to the attached Topo Map B. No pipelines will be crossed with the new construction.

Existence of pipelines; maximum grade; turnouts; major cut and fills, culverts, or bridges; gates, cattle guards, fence cuts, or modifications to existing facilities were determined at the on-site and are typically shown on the attached Exhibits and Topo maps.

C. **Location of Existing Wells Within a 1-Mile Radius:**
Please refer to Topo Map C.

D. **Location of Existing and Proposed Facilities:**
See MDP for additional details on Existing and Proposed Facilities.

This pad will expand the existing pad for the NBU 1021-1O well, which is a producing well according to Utah Division of Oil, Gas and Mining (UDOGM) records.

The following guidelines will apply if the well is productive.
Approximately ±5,645' (±1.07 miles) of new 6" buried pipeline is proposed from the tie in point to the edge of the pad. Another approximately ±660' (±0.13 miles) of proposed 6" buried pipeline is proposed around the pad**.** Please refer to Topo D for the existing pipeline. Pipeline segments will be welded or zaplocked together on disturbed areas in or near the location, whenever possible, and dragged into place.

E. **Location and Type of Water Supply:**
See MDP for additional details on Location and Type of Water Supply.

Water for drilling purposes will be obtained from the following sources:

49-2243	Target Trucking Inc.	Green River- Various points
49-2300	R.N. Industries	White River- Various points
49-2298	RNI Trucking	White River- Various points
49-2231	Nile Chapman	Green River- Various points
49-2299	R.N. Industries	Green River- Various points
49-2306	R.N. Industries	White River- Various points

Water will be hauled to location over the roads marked on Maps A and B.

No water well is to be drilled on this lease.

F. **Source of Construction Materials:**
See MDP for additional details on Source of Construction Materials.

G. **Methods of Handling Waste Materials:**
See MDP for additional details on Methods of Handling Waste Materials.

RECEIVED March 22, 2010

Any produced water from the proposed well will be contained in a water tank and will then be hauled by truck to one of the pre-approved disposal sites:

RNI in Sec. 5 T9S R22E
NBU #159 in Sec. 35 T9S R21E
Ace Oilfield in Sec. 2 T6S R20E
MC&MC in Sec. 12 T6S R19E
Pipeline Facility in Sec. 36 T9S R20E
Goat Pasture Evaporation Pond in SW/4 Sec. 16 T10S R22E
Bonanza Evaporation Pond in Sec. 2 T10S R23E

H. **Ancillary Facilities:**
See MDP for additional details on Ancillary Facilities.

None are anticipated.

I. **Well Site Layout:** (See Location Layout Diagram)
See MDP for additional details on Well Site Layout.

All pits will be fenced according to the following minimum standards:

- Net wire (39-inch) will be used with at least one strand of barbed wire on top of the net wire. Barbed wire is not necessary if pipe or some type of reinforcement rod is attached to the top of the entire fence.
- The net wire shall be no more than two inches above the ground. The barbed wire shall be three inches over the net wire. Total height of the fence shall be at least 42 inches.
- Corner posts shall be cemented and/or braced in such a manner to keep the fence tight at all times.
- Standard steel, wood, or pipe posts shall be used between the corner braces. Maximum distance between any 2 fence posts shall be no greater than 16 feet.
- All wire shall be stretched, by using a stretching device, before it is attached to corner posts.

J. **Plans for Reclamation of the Surface:**
See MDP for additional details on Plans for Reclamation of the Surface.

K. **Surface/Mineral Ownership:**
SITLA
675 East 500 South, Suite 500
Salt Lake City, UT 84102

L. **Other Information:**
See MDP for additional details on Other Information.

RECEIVED March 22, 2010

M. Lessee's or Operators' Representative & Certification:

Danielle Piernot
Regulatory Analyst
Kerr-McGee Oil & Gas Onshore LP
PO Box 173779
Denver, CO 80217-3779
(720) 929-6156

Tommy Thompson
General Manager, Drilling
Kerr-McGee Oil & Gas Onshore LP
PO Box 173779
Denver, CO 80217-3779
(720) 929-6724

Certification: All lease and/or unit operations will be conducted in such a manner that full compliance is made with all applicable laws, regulations, Onshore Oil and Gas Orders, the approved Plan of Operations, and any applicable Notice to Lessees.

The Operator will be fully responsible for the actions of its subcontractors. A complete copy of the approved "Application for Permit to Drill" will be furnished to the field representative(s) to ensure compliance and shall be on location during all construction and drilling operations.

Kerr-McGee Oil & Gas Onshore LP is considered to be the operator of the subject well. Kerr-McGee Oil & Gas Onshore LP agrees to be responsible under terms and conditions of the lease for the operations conducted upon leased lands.

Bond coverage pursuant to 43 CFR 3104 for lease activities is being provided by State Surety Bond 22013542.

I hereby certify that I, or persons under my supervision, have inspected the proposed drill site and access route, that I am familiar with the conditions that currently exist; that I have full knowledge of the State and Federal laws applicable to this operation; that the statements made in this plan are, to the best of my knowledge, true and correct; and the work associated with the operations proposed herein will be performed in conformity with this APD package and the terms and conditions under which it is approved. I also certify that I, or the company I represent, am responsible for operations conducted under this application. These statements are subject to the provisions of 18 U.S.C. 1001 for the filing of false statements.

Danielle Piernot
Danielle Piernot

December 18, 2009
Date

API Well No: 43047508540000

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS, AND MINING

FORM 9

SUNDRY NOTICES AND REPORTS ON WELLS

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5.LEASE DESIGNATION AND SERIAL NUMBER: ML 23612

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

7.UNIT or CA AGREEMENT NAME: NATURAL BUTTES

1. TYPE OF WELL Gas Well

8. WELL NAME and NUMBER: NBU 1021-1O3AS

2. NAME OF OPERATOR: KERR-MCGEE OIL & GAS ONSHORE, L.P.

9. API NUMBER: 43047508540000

3. ADDRESS OF OPERATOR: P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779

PHONE NUMBER: 720 929-6007 Ext

9. FIELD and POOL or WILDCAT: NATURAL BUTTES

4. LOCATION OF WELL
FOOTAGES AT SURFACE: 0393 FSL 2439 FEL
QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: Qtr/Qtr: SWSE Section: 1 Township: 10.0S Range: 21.0E Meridian: S

COUNTY: UINTAH

STATE: UTAH

11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION		
✓ NOTICE OF INTENT Approximate date work will start: 4/12/2010	☐ ACIDIZE	☐ ALTER CASING	☐ CASING REPAIR
☐ SUBSEQUENT REPORT Date of Work Completion:	✓ CHANGE TO PREVIOUS PLANS	☐ CHANGE TUBING	☐ CHANGE WELL NAME
☐ SPUD REPORT Date of Spud:	☐ CHANGE WELL STATUS	☐ COMMINGLE PRODUCING FORMATIONS	☐ CONVERT WELL TYPE
☐ DRILLING REPORT Report Date:	☐ DEEPEN	☐ FRACTURE TREAT	☐ NEW CONSTRUCTION
	☐ OPERATOR CHANGE	☐ PLUG AND ABANDON	☐ PLUG BACK
	☐ PRODUCTION START OR RESUME	☐ RECLAMATION OF WELL SITE	☐ RECOMPLETE DIFFERENT FORMATION
	☐ REPERFORATE CURRENT FORMATION	☐ SIDETRACK TO REPAIR WELL	☐ TEMPORARY ABANDON
	☐ TUBING REPAIR	☐ VENT OR FLARE	☐ WATER DISPOSAL
	☐ WATER SHUTOFF	☐ SI TA STATUS EXTENSION	☐ APD EXTENSION
	☐ WILDCAT WELL DETERMINATION	☐ OTHER	OTHER:

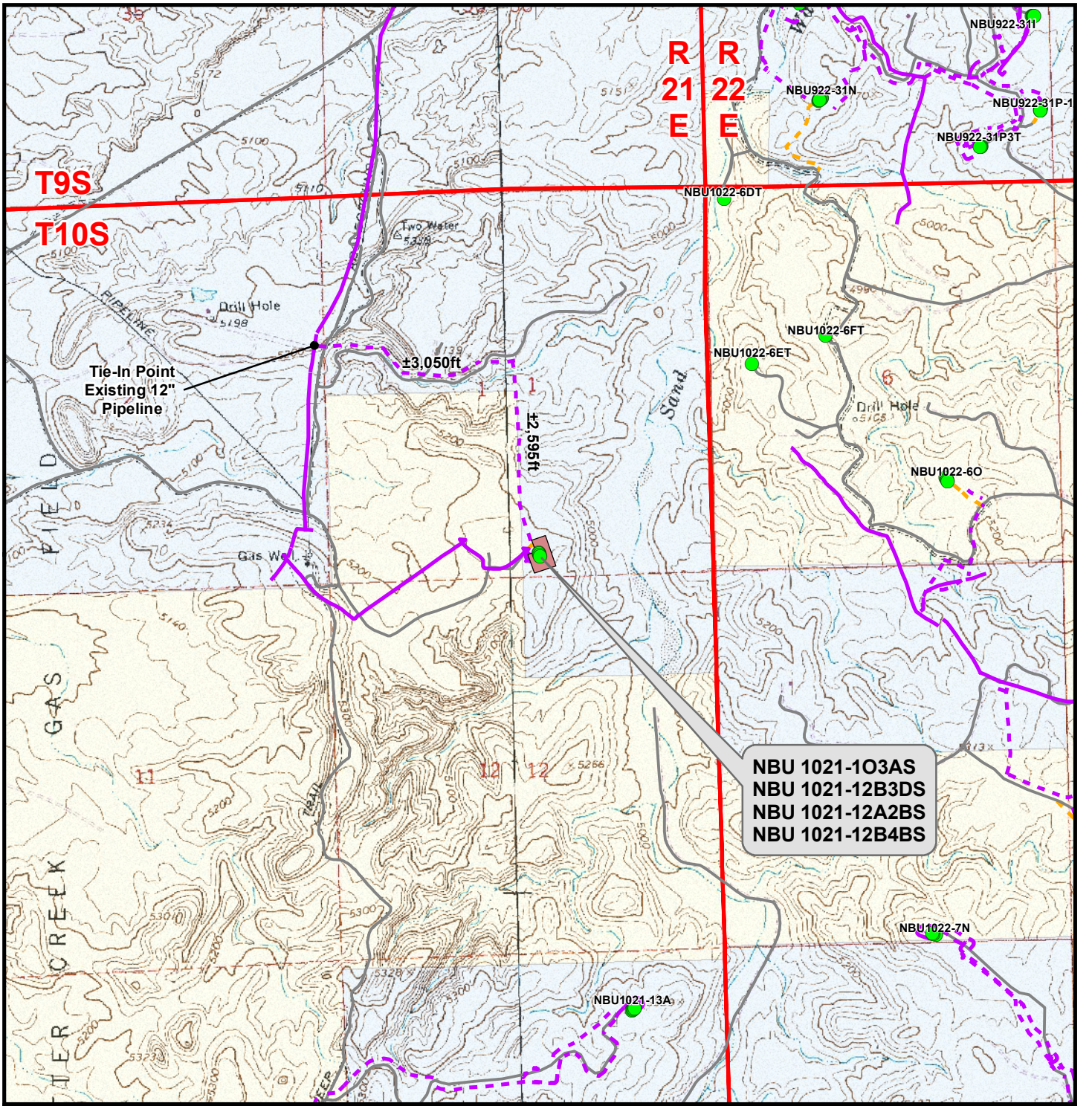
12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.

Kerr-McGee Oil & Gas Onshore LP (Kerr-McGee) respectfully requests to change the size of the pipeline for this location. The ±2,595' potion of pipeline that is traveling northerly from the well pad will be a buried 6" pipeline and the ±3,050' portion of pipeline traveling westerly to the tie in point will be a buried 10" pipeline. The pipeline will follow the same route as detailed in the sundry notice accepted for record on March 23, 2010. Please see the attached pipeline plat for additional details. Please contact the undersigned with any questions and/or comments. Thank you.

Accepted by the Utah Division of Oil, Gas and Mining
FOR RECORD ONLY
April 08, 2010

NAME (PLEASE PRINT)	PHONE NUMBER	TITLE
Danielle Piernot	720 929-6156	Regulatory Analyst
SIGNATURE N/A		**DATE** 4/8/2010

RECEIVED April 08, 2010



Legend

Proposed Pipeline Length From Tie-In Point To Edge Of Pad: ±5,645ft
Proposed Pipeline Length Around Pad: ±660ft

Well - Proposed | Well Pad | Road - Proposed | Pipeline - Proposed | Bureau of Land Management | State
Road - Existing | Pipeline - Existing | Indian Reservation | Private

Kerr-McGee Oil & Gas Onshore, LP
1099 18th Street, Denver, Colorado 80202

Well Pad - NBU 1021-1O

NBU 1021-1O3AS, NBU 1021-12B3DS, NBU 1021-12A2BS & NBU 1021-12B4BS
Topo D
Located In Section 1, T10S, R21E
S.L.B.&M., Uintah County, Utah

609 CONSULTING, LLC
371 Coffeen Avenue
Sheridan, WY 82801
Phone (307) 674-0609
Fax (307) 674-0182

N

Scale: 1" = 2,000ft	NAD83 USP Central	Sheet No: 12	12 of 13
Drawn: JELo	Date: 30 June 2009		
Revised: JELo	Date: 12 Feb 2010		

RECEIVED April 08, 2010

API Well No: 43047508540000

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS, AND MINING

FORM 9

SUNDRY NOTICES AND REPORTS ON WELLS

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5.LEASE DESIGNATION AND SERIAL NUMBER: ML 23612

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

7.UNIT or CA AGREEMENT NAME: NATURAL BUTTES

1. TYPE OF WELL Gas Well

8. WELL NAME and NUMBER: NBU 1021-1O3AS

2. NAME OF OPERATOR: KERR-MCGEE OIL & GAS ONSHORE, L.P.

9. API NUMBER: 43047508540000

3. ADDRESS OF OPERATOR: P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779

PHONE NUMBER: 720 929-6007 Ext

9. FIELD and POOL or WILDCAT: NATURAL BUTTES

4. LOCATION OF WELL
FOOTAGES AT SURFACE: 0393 FSL 2439 FEL
QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: Qtr/Qtr: SWSE Section: 1 Township: 10.0S Range: 21.0E Meridian: S

COUNTY: UINTAH

STATE: UTAH

11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION		
✓ NOTICE OF INTENT Approximate date work will start: 4/26/2010	☐ ACIDIZE	☐ ALTER CASING	☐ CASING REPAIR
☐ SUBSEQUENT REPORT Date of Work Completion:	☐ CHANGE TO PREVIOUS PLANS	☐ CHANGE TUBING	☐ CHANGE WELL NAME
☐ SPUD REPORT Date of Spud:	☐ CHANGE WELL STATUS	☐ COMMINGLE PRODUCING FORMATIONS	☐ CONVERT WELL TYPE
☐ DRILLING REPORT Report Date:	☐ DEEPEN	☐ FRACTURE TREAT	☐ NEW CONSTRUCTION
	☐ OPERATOR CHANGE	☐ PLUG AND ABANDON	☐ PLUG BACK
	☐ PRODUCTION START OR RESUME	☐ RECLAMATION OF WELL SITE	☐ RECOMPLETE DIFFERENT FORMATION
	☐ REPERFORATE CURRENT FORMATION	☐ SIDETRACK TO REPAIR WELL	☐ TEMPORARY ABANDON
	☐ TUBING REPAIR	☐ VENT OR FLARE	☐ WATER DISPOSAL
	☐ WATER SHUTOFF	☐ SI TA STATUS EXTENSION	☐ APD EXTENSION
	☐ WILDCAT WELL DETERMINATION	✓ OTHER	OTHER: ACTS/ Pit Refurb

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.

Kerr-McGee Oil & Gas Onshore, LP is requesting to refurb the existing pit on this multi-well pad for completion operations. The refurb pit will be relined per the requirements in the COA of the APD. Upon completion of the wells on this pad, Kerr-McGee is also requesting to utilize this pit as an ACTS staging pit to be utilized for other completion operations in the area. There will be 2-400 bbl skim tanks placed on the location. The trucks will unload water into these tanks before the water is placed into the refurbed pit. The purpose of the skim tanks is to collect any hydro-carbons that may have been associated with the other completion operations before releasing into the pit. We plan to keep this pit open for 1 year. During this time the surrounding well location completion fluids will be recycled in this pit and utilized for other frac jobs in the surrounding sections. Thank you.

Approved by the Utah Division of Oil, Gas and Mining

Date: April 22, 2010

By:

NAME (PLEASE PRINT)	PHONE NUMBER	TITLE
Danielle Piernot	720 929-6156	Regulatory Analyst
SIGNATURE N/A		**DATE** 4/15/2010

RECEIVED April 15, 2010

The Utah Division of Oil, Gas, and Mining

- State of Utah
- Department of Natural Resources

Electronic Permitting System - Sundry Notices

Sundry Conditions of Approval Well Number 43047508540000

A synthetic liner with a minimum thickness of 30 mils with a felt subliner shall be properly installed and maintained in the pit.

Approved by the
Utah Division of
Oil, Gas and Mining

Date: April 22, 2010

By:

API Well No: 43047508540000

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS, AND MINING

FORM 9

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7.UNIT or CA AGREEMENT NAME: NATURAL BUTTES

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9. API NUMBER: 43047508540000

3. ADDRESS OF OPERATOR: P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779

PHONE NUMBER: 720 929-6007 Ext

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4. LOCATION OF WELL
FOOTAGES AT SURFACE: 0393 FSL 2439 FEL
QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: Qtr/Qtr: SWSE Section: 1 Township: 10.0S Range: 21.0E Meridian: S

COUNTY: UINTAH

STATE: UTAH

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	☐ CHANGE WELL STATUS	☐ COMMINGLE PRODUCING FORMATIONS	☐ CONVERT WELL TYPE
	☐ DEEPEN	☐ FRACTURE TREAT	☐ NEW CONSTRUCTION
	☐ OPERATOR CHANGE	☐ PLUG AND ABANDON	☐ PLUG BACK
✓ SPUD REPORT Date of Spud: 5/10/2010	✓ PRODUCTION START OR RESUME	☐ RECLAMATION OF WELL SITE	☐ RECOMPLETE DIFFERENT FORMATION
	☐ REPERFORATE CURRENT FORMATION	☐ SIDETRACK TO REPAIR WELL	☐ TEMPORARY ABANDON
	☐ TUBING REPAIR	☐ VENT OR FLARE	☐ WATER DISPOSAL
☐ DRILLING REPORT Report Date:	☐ WATER SHUTOFF	☐ SI TA STATUS EXTENSION	☐ APD EXTENSION
	☐ WILDCAT WELL DETERMINATION	☐ OTHER	OTHER:

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.

MIRU PETE MARTIN BUCKET RIG. DRILLED 20" CONDUCTOR HOLE TO 40'.
RAN 14" 36.7# SCHEDULE 10 CONDUCTOR PIPE. CMT W/28 SX READY MIX.
SPUD WELL LOCATION ON MAY 10, 2010 AT 10:00 HRS.

Accepted by the Utah Division of Oil, Gas and Mining

FOR RECORD ONLY

May 18, 2010

NAME (PLEASE PRINT)	PHONE NUMBER	TITLE
Andy Lytle	720 929-6100	Regulatory Analyst
SIGNATURE N/A		**DATE** 5/11/2010

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

FORM 6

ENTITY ACTION FORM

Operator: KERR McGEE OIL & GAS ONSHORE LP
Operator Account Number: N 2995
Address: P.O. Box 173779
city DENVER
state CO zip 80217
Phone Number: (720) 929-6100

Well 1

API Number	Well Name		QQ	Sec	Twp	Rng	County
4304750854	NBU 1021-1O3AS		SWSE	1	10S	21E	UINTAH
Action Code	**Current Entity Number**	**New Entity Number**	**Spud Date**			**Entity Assignment Effective Date**	
B	99999	2900	5/10/2010			5/18/10	

Comments: MIRU PETE MARTIN BUCKET RIG. WSMVD
SPUD WELL LOCATION ON 5/10/2010 AT 10:00 HRS. BHL = SWSE

Well 2

API Number	Well Name		QQ	Sec	Twp	Rng	County
Action Code	**Current Entity Number**	**New Entity Number**	**Spud Date**			**Entity Assignment Effective Date**	

Comments:

Well 3

API Number	Well Name		QQ	Sec	Twp	Rng	County
Action Code	**Current Entity Number**	**New Entity Number**	**Spud Date**			**Entity Assignment Effective Date**	

Comments:

RECEIVED
MAY 11 2010
DIV. OF OIL, GAS & MINING

ACTION CODES:

- A - Establish new entity for new well (single well only)
- B - Add new well to existing entity (group or unit well)
- C - Re-assign well from one existing entity to another existing entity
- D - Re-assign well from one existing entity to a new entity
- E - Other (Explain in 'comments' section)

SANDY LYTLE
Name (Please Print)
Signature
REGULATORY ANALYST
Title
5/10/2010
Date

(5/2000)

API Well No: 43047508540000

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS, AND MINING

FORM 9

5.LEASE DESIGNATION AND SERIAL NUMBER: ML 23612

SUNDRY NOTICES AND REPORTS ON WELLS

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6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

7.UNIT or CA AGREEMENT NAME: NATURAL BUTTES

1. TYPE OF WELL Gas Well

8. WELL NAME and NUMBER: NBU 1021-1O3AS

2. NAME OF OPERATOR: KERR-MCGEE OIL & GAS ONSHORE, L.P.

9. API NUMBER: 43047508540000

3. ADDRESS OF OPERATOR: P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779

PHONE NUMBER: 720 929-6007 Ext

9. FIELD and POOL or WILDCAT: NATURAL BUTTES

4. LOCATION OF WELL
FOOTAGES AT SURFACE: 0393 FSL 2439 FEL
QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: Qtr/Qtr: SWSE Section: 1 Township: 10.0S Range: 21.0E Meridian: S

COUNTY: UINTAH

STATE: UTAH

11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

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☐ SUBSEQUENT REPORT Date of Work Completion:	☐ CHANGE TO PREVIOUS PLANS	☐ CHANGE TUBING	☐ CHANGE WELL NAME
☐ SPUD REPORT Date of Spud:	☐ CHANGE WELL STATUS	☐ COMMINGLE PRODUCING FORMATIONS	☐ CONVERT WELL TYPE
✓ DRILLING REPORT Report Date: 5/24/2010	☐ DEEPEN	☐ FRACTURE TREAT	☐ NEW CONSTRUCTION
	☐ OPERATOR CHANGE	☐ PLUG AND ABANDON	☐ PLUG BACK
	☐ PRODUCTION START OR RESUME	☐ RECLAMATION OF WELL SITE	☐ RECOMPLETE DIFFERENT FORMATION
	☐ REPERFORATE CURRENT FORMATION	☐ SIDETRACK TO REPAIR WELL	☐ TEMPORARY ABANDON
	☐ TUBING REPAIR	☐ VENT OR FLARE	☐ WATER DISPOSAL
	☐ WATER SHUTOFF	☐ SI TA STATUS EXTENSION	☐ APD EXTENSION
	☐ WILDCAT WELL DETERMINATION	☐ OTHER	OTHER:

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.

MIRU CAPSTAR AIR RIG ON MAY 22, 2010. DRILLED 11" SURFACE HOLE TO 2285'. RAN 8 5/8" 28# IJ-55 SURFACE CSG. PUMP 120 BBLS AHEAD. PUMP 20 BBLS GEL WATER FOR SPACER. PUMP 225 SX CLASS G PREM LITE TAIL CEMENT @ 15.8 PPG, 1.15 YD. DISPLACED W/ 137.5 BBLS WATER WITH 100 PSI LIFT @ 2.5 BBLS/MINUTE, BUMP PLUG 500 PSI, FLOAT HELD. NO CIRC THROUGH OUT JOB. TOP OUT W/ 100 SX CLASS G PREM @ 15.8 PPG, 1.15 YD. TOP OUT #2 W/ 150 SX SAME CEMENT DOWN BACKSIDE - NO CEMENT TO SURFACE. WAIT 1 1/2 HRS. TOP OUT #3 W/ 150 SX SAME CEMENT - NO CEMENT TO SURFACE. WAIT 1 1/2 HRS. TOP OUT #4 W/ 150 SX SAME CMT, NO CEMENT TO SURFACE. WAIT 1 1/2 HRS. TOP OUT #5 W/ 150 SX SAME CEMENT DOWN BACKSIDE. NO CEMENT TO SURFACE. WILL REDMIX. WORT.

Accepted by the Utah Division of Oil, Gas and Mining
FOR RECORD ONLY
May 26, 2010

NAME (PLEASE PRINT)	PHONE NUMBER	TITLE
Andy Lytle	720 929-6100	Regulatory Analyst
SIGNATURE N/A		**DATE** 5/25/2010

RECEIVED May 25, 2010

API Well No: 43047508540000

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS, AND MINING

FORM 9

5.LEASE DESIGNATION AND SERIAL NUMBER: ML 23612

SUNDRY NOTICES AND REPORTS ON WELLS

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PHONE NUMBER: 720 929-6007 Ext

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FOOTAGES AT SURFACE: 0393 FSL 2439 FEL
QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: Qtr/Qtr: SWSE Section: 1 Township: 10.0S Range: 21.0E Meridian: S

COUNTY: UINTAH

STATE: UTAH

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✓ DRILLING REPORT Report Date: 5/24/2010	☐ DEEPEN	☐ FRACTURE TREAT	☐ NEW CONSTRUCTION
	☐ OPERATOR CHANGE	☐ PLUG AND ABANDON	☐ PLUG BACK
	☐ PRODUCTION START OR RESUME	☐ RECLAMATION OF WELL SITE	☐ RECOMPLETE DIFFERENT FORMATION
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	☐ WATER SHUTOFF	☐ SI TA STATUS EXTENSION	☐ APD EXTENSION
	☐ WILDCAT WELL DETERMINATION	☐ OTHER	OTHER:

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.

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Accepted by the Utah Division of Oil, Gas and Mining
FOR RECORD ONLY
May 26, 2010

NAME (PLEASE PRINT)	PHONE NUMBER	TITLE
Andy Lytle	720 929-6100	Regulatory Analyst
SIGNATURE N/A		**DATE** 5/25/2010

RECEIVED May 25, 2010

API Well No: 43047508540000

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS, AND MINING

FORM 9

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7.UNIT or CA AGREEMENT NAME: NATURAL BUTTES

1. TYPE OF WELL Gas Well

8. WELL NAME and NUMBER: NBU 1021-1O3AS

2. NAME OF OPERATOR: KERR-MCGEE OIL & GAS ONSHORE, L.P.

9. API NUMBER: 43047508540000

3. ADDRESS OF OPERATOR: P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779

PHONE NUMBER: 720 929-6007 Ext

9. FIELD and POOL or WILDCAT: NATURAL BUTTES

4. LOCATION OF WELL
FOOTAGES AT SURFACE: 0393 FSL 2439 FEL
QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: Qtr/Qtr: SWSE Section: 1 Township: 10.0S Range: 21.0E Meridian: S

COUNTY: UINTAH

STATE: UTAH

11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION		
☐ NOTICE OF INTENT Approximate date work will start:	☐ ACIDIZE	☐ ALTER CASING	☐ CASING REPAIR
☐ SUBSEQUENT REPORT Date of Work Completion:	☐ CHANGE TO PREVIOUS PLANS	☐ CHANGE TUBING	☐ CHANGE WELL NAME
☐ SPUD REPORT Date of Spud:	☐ CHANGE WELL STATUS	☐ COMMINGLE PRODUCING FORMATIONS	☐ CONVERT WELL TYPE
✓ DRILLING REPORT Report Date: 6/10/2010	☐ DEEPEN	☐ FRACTURE TREAT	☐ NEW CONSTRUCTION
	☐ OPERATOR CHANGE	☐ PLUG AND ABANDON	☐ PLUG BACK
	☐ PRODUCTION START OR RESUME	☐ RECLAMATION OF WELL SITE	☐ RECOMPLETE DIFFERENT FORMATION
	☐ REPERFORATE CURRENT FORMATION	☐ SIDETRACK TO REPAIR WELL	☐ TEMPORARY ABANDON
	☐ TUBING REPAIR	☐ VENT OR FLARE	☐ WATER DISPOSAL
	☐ WATER SHUTOFF	☐ SI TA STATUS EXTENSION	☐ APD EXTENSION
	☐ WILDCAT WELL DETERMINATION	☐ OTHER	OTHER:

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.

FINISHED DRILLING FROM 2285' TO 9444' ON JUNE 9, 2010. RAN 4 ½" 11.6# I-80 PRODUCTION CSG. PUMP 40 BBLS SPACER, LEAD CEMENT W/ 407 SX CLASS G PREM LITE @ 11.7 PPG, 2.50 YD. TAILED CEMENT W/ 1090 SX CLASS G 50/50 POZ MIX @ 14.3 PPG, 1.31 YD. DISPLACED W/ 146 BBLS WATER, BUMPED PLUG, FLOATS HELD. FINAL LIFT PSI 2360, 1 1/2 BBLS BACK TO TRUCK, 10 BBLS CEMENT TO SURFACE. RD CEMENTERS AND CLEANED PITS. RELEASED ENSIGN RIG #146 ON JUNE 10, 2010 @ 23:59 HRS.

Accepted by the Utah Division of Oil, Gas and Mining
FOR RECORD ONLY
June 15, 2010

NAME (PLEASE PRINT)	PHONE NUMBER	TITLE
Andy Lytle	720 929-6100	Regulatory Analyst
SIGNATURE N/A		**DATE** 6/11/2010

RECEIVED June 11, 2010

API Well No: 43047508540000

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS, AND MINING

FORM 9

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.

5.LEASE DESIGNATION AND SERIAL NUMBER: ML 23612

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

7.UNIT or CA AGREEMENT NAME: NATURAL BUTTES

1. TYPE OF WELL Gas Well

8. WELL NAME and NUMBER: NBU 1021-1O3AS

2. NAME OF OPERATOR: KERR-MCGEE OIL & GAS ONSHORE, L.P.

9. API NUMBER: 43047508540000

3. ADDRESS OF OPERATOR: P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779

PHONE NUMBER: 720 929-6007 Ext

9. FIELD and POOL or WILDCAT: NATURAL BUTTES

4. LOCATION OF WELL
FOOTAGES AT SURFACE: 0393 FSL 2439 FEL
QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: Qtr/Qtr: SWSE Section: 01 Township: 10.0S Range: 21.0E Meridian: S

COUNTY: UINTAH

STATE: UTAH

11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION		
☐ NOTICE OF INTENT Approximate date work will start:	☐ ACIDIZE	☐ ALTER CASING	☐ CASING REPAIR
☐ SUBSEQUENT REPORT Date of Work Completion:	☐ CHANGE TO PREVIOUS PLANS	☐ CHANGE TUBING	☐ CHANGE WELL NAME
☐ SPUD REPORT Date of Spud:	☐ CHANGE WELL STATUS	☐ COMMINGLE PRODUCING FORMATIONS	☐ CONVERT WELL TYPE
✓ DRILLING REPORT Report Date: 8/21/2010	☐ DEEPEN	☐ FRACTURE TREAT	☐ NEW CONSTRUCTION
	☐ OPERATOR CHANGE	☐ PLUG AND ABANDON	☐ PLUG BACK
	☐ PRODUCTION START OR RESUME	☐ RECLAMATION OF WELL SITE	☐ RECOMPLETE DIFFERENT FORMATION
	☐ REPERFORATE CURRENT FORMATION	☐ SIDETRACK TO REPAIR WELL	☐ TEMPORARY ABANDON
	☐ TUBING REPAIR	☐ VENT OR FLARE	☐ WATER DISPOSAL
	☐ WATER SHUTOFF	☐ SI TA STATUS EXTENSION	☐ APD EXTENSION
	☐ WILDCAT WELL DETERMINATION	☐ OTHER	OTHER:

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.

THE SUBJECT WELL WAS PLACED ON PRODUCTION ON AUGUST 21, 2010 AT 11:00 A.M. THE CHRONOLOGICAL WELL HISTORY WILL BE SUBMITTED WITH THE WELL COMPLETION REPORT.

Accepted by the Utah Division of Oil, Gas and Mining
FOR RECORD ONLY
August 25, 2010

NAME (PLEASE PRINT)	PHONE NUMBER	TITLE
Andy Lytle	720 929-6100	Regulatory Analyst
SIGNATURE N/A		**DATE** 8/23/2010

RECEIVED August 23, 2010

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

COPY

AMENDED REPORT ☐ (highlight changes)

FORM 8

WELL COMPLETION OR RECOMPLETION REPORT AND LOG

5. LEASE DESIGNATION AND SERIAL NUMBER: ML 23612

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

1a. TYPE OF WELL: OIL WELL ☐ GAS WELL ☑ DRY ☐ OTHER

7. UNIT or CA AGREEMENT NAME: UTU63047A

b. TYPE OF WORK: NEW WELL ☑ HORIZ. LATS. ☐ DEEP-EN ☐ RE-ENTRY ☐ DIFF. RESVR. ☐ OTHER

8. WELL NAME and NUMBER: NBU 1021-1O3AS

2. NAME OF OPERATOR: KERR MCGEE OIL & GAS ONSHORE, L.P.

9. API NUMBER: 4304750854

3. ADDRESS OF OPERATOR: P.O.BOX 173779 CITY DENVER STATE CO ZIP 80217

PHONE NUMBER: (720) 929-6100

10 FIELD AND POOL, OR WILDCAT: NATURAL BUTTES

4. LOCATION OF WELL (FOOTAGES)

AT SURFACE: SWSE 393 FSL & 2439 FEL S1, T10S, R21E

BHL Reviewed by HSM

AT TOP PRODUCING INTERVAL REPORTED BELOW: SWSE 383 FSL & 2043 FEL S1, T10S, R21E

AT TOTAL DEPTH: SWSE 383 FSL & 2039 FEL S1, T10S, R21E

11. QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: SWSE 1 10S 21E S

12. COUNTY: UINTAH

13. STATE: UTAH

14. DATE SPUDDED: 5/10/2010

15. DATE T.D. REACHED: 6/9/2010

16. DATE COMPLETED: 8/21/2010 ABANDONED ☐ READY TO PRODUCE ☑

17. ELEVATIONS (DF, RKB, RT, GL): 5221 GL

18. TOTAL DEPTH: MD 9,444 TVD 9,409

19. PLUG BACK T.D.: MD 9,405 TVD 9,370

20. IF MULTIPLE COMPLETIONS, HOW MANY? *

21. DEPTH BRIDGE PLUG SET: MD TVD

22. TYPE ELECTRIC AND OTHER MECHANICAL LOGS RUN (Submit copy of each)

CBL-HDIL/ZDL/CNGR

23.

WAS WELL CORED? NO ☑ YES ☐ (Submit analysis)

WAS DST RUN? NO ☑ YES ☐ (Submit report)

DIRECTIONAL SURVEY? NO ☐ YES ☑ (Submit copy)

24. CASING AND LINER RECORD (Report all strings set in well)

HOLE SIZE	SIZE/GRADE	WEIGHT (#/ft.)	TOP (MD)	BOTTOM (MD)	STAGE CEMENTER DEPTH	CEMENT TYPE & NO. OF SACKS	SLURRY VOLUME (BBL)	CEMENT TOP **	AMOUNT PULLED
20"	14" STL	36.7#		40		28			
11"	8 5/8" J-55	28#		2,276		925			
7 7/8"	4 1/2" I-80	11.6#		9,428		1,497			

25. TUBING RECORD

SIZE	DEPTH SET (MD)	PACKER SET (MD)	SIZE	DEPTH SET (MD)	PACKER SET (MD)	SIZE	DEPTH SET (MD)	PACKER SET (MD)
2 3/8"	8,042							

26. PRODUCING INTERVALS

FORMATION NAME	TOP (MD)	BOTTOM (MD)	TOP (TVD)	BOTTOM (TVD)
(A) WASATCH	5,480	7,175		
(B) MESAVERDE	7,268	8,954		
(C)				
(D)				

27. PERFORATION RECORD

INTERVAL (Top/Bot - MD)		SIZE	NO. HOLES	PERFORATION STATUS
5,480	7,175	0.36	60	Open ☑ Squeezed ☐
7,268	8,954	0.36	107	Open ☑ Squeezed ☐
				Open ☐ Squeezed ☐
				Open ☐ Squeezed ☐

28. ACID, FRACTURE, TREATMENT, CEMENT SQUEEZE, ETC.

DEPTH INTERVAL	AMOUNT AND TYPE OF MATERIAL
5480 - 8954	PUMP 7,594 BBLS SLICK H2O & 294,920 LBS 30/50 SAND

29. ENCLOSED ATTACHMENTS:

☐ ELECTRICAL/MECHANICAL LOGS ☐ GEOLOGIC REPORT ☐ DST REPORT ☑ DIRECTIONAL SURVEY

☐ SUNDRY NOTICE FOR PLUGGING AND CEMENT VERIFICATION ☐ CORE ANALYSIS ☐ OTHER:

30. WELL STATUS: PROD

RECEIVED
SEP 27 2010
DIV. OF OIL, GAS & MINING

(5/2000)

(CONTINUED ON BACK)

31. INITIAL PRODUCTION — **INTERVAL A (As shown in item #26)**

DATE FIRST PRODUCED:	TEST DATE:	HOURS TESTED:	TEST PRODUCTION RATES: →	OIL – BBL:	GAS – MCF:	WATER – BBL:	PROD. METHOD:
8/21/2010	8/29/2010	24		0	738	685	FLOWING

CHOKE SIZE:	TBG. PRESS.	CSG. PRESS.	API GRAVITY	BTU – GAS	GAS/OIL RATIO	24 HR PRODUCTION RATES: →	OIL – BBL:	GAS – MCF:	WATER – BBL:	INTERVAL STATUS:
20/64	682	1,399					0	738	685	PROD

INTERVAL B (As shown in item #26)

DATE FIRST PRODUCED:	TEST DATE:	HOURS TESTED:	TEST PRODUCTION RATES: →	OIL – BBL:	GAS – MCF:	WATER – BBL:	PROD. METHOD:

CHOKE SIZE:	TBG. PRESS.	CSG. PRESS.	API GRAVITY	BTU – GAS	GAS/OIL RATIO	24 HR PRODUCTION RATES: →	OIL – BBL:	GAS – MCF:	WATER – BBL:	INTERVAL STATUS:

INTERVAL C (As shown in item #26)

DATE FIRST PRODUCED:	TEST DATE:	HOURS TESTED:	TEST PRODUCTION RATES: →	OIL – BBL:	GAS – MCF:	WATER – BBL:	PROD. METHOD:

CHOKE SIZE:	TBG. PRESS.	CSG. PRESS.	API GRAVITY	BTU – GAS	GAS/OIL RATIO	24 HR PRODUCTION RATES: →	OIL – BBL:	GAS – MCF:	WATER – BBL:	INTERVAL STATUS:

INTERVAL D (As shown in item #26)

DATE FIRST PRODUCED:	TEST DATE:	HOURS TESTED:	TEST PRODUCTION RATES: →	OIL – BBL:	GAS – MCF:	WATER – BBL:	PROD. METHOD:

CHOKE SIZE:	TBG. PRESS.	CSG. PRESS.	API GRAVITY	BTU – GAS	GAS/OIL RATIO	24 HR PRODUCTION RATES: →	OIL – BBL:	GAS – MCF:	WATER – BBL:	INTERVAL STATUS:

32. DISPOSITION OF GAS (Sold, Used for Fuel, Vented, Etc.)

33. SUMMARY OF POROUS ZONES (Include Aquifers):

Show all important zones of porosity and contents thereof: Cored intervals and all drill-stem tests, including depth interval tested, cushion used, time tool open, flowing and shut-in pressures and recoveries.

34. FORMATION (Log) MARKERS:

Formation	Top (MD)	Bottom (MD)	Descriptions, Contents, etc.	Name	Top (Measured Depth)
GREEN RIVER	1,447				
BIRD'S NEST	1,730				
MAHOGANY	2,212				
WASATCH	4,644	7,256			
MESAVERDE	7,256	9,444	TD		

35. ADDITIONAL REMARKS (Include plugging procedure)

Attached is the chronological well history & final survey.
Completion chrono details individual frac stages.
Surface cement was topped out w/ redimix.

36. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records.

NAME (PLEASE PRINT) ANDREW LYTLE TITLE REGULATORY ANALYST

SIGNATURE DATE 9/21/2010

This report must be submitted within 30 days of

- completing or plugging a new well
- drilling horizontal laterals from an existing well bore
- recompleting to a different producing formation
- reentering a previously plugged and abandoned well
- significantly deepening an existing well bore below the previous bottom-hole depth
- drilling hydrocarbon exploratory holes, such as core samples and stratigraphic tests

* ITEM 20: Show the number of completions if production is measured separately from two or more formations.

** ITEM 24: Cement Top – Show how reported top(s) of cement were determined (circulated (CIR), calculated (CAL), cement bond log (CBL), temperature survey (TS)).

Send to: Utah Division of Oil, Gas and Mining
1594 West North Temple, Suite 1210
Box 145801
Salt Lake City, Utah 84114-5801

Phone: 801-538-5340

Fax: 801-359-3940

(5/2000)

US ROCKIES REGION

Operation Summary Report

Well: NBU 1021-1O3AS [RED]	Spud Conductor: 5/10/2010	Spud Date: 5/22/2010
Project: UTAH-UINTAH	Site: NBU 1021-1O PAD	Rig Name No: ENSIGN 146/146, CAPSTAR 310/310
Event: DRILLING	Start Date: 4/29/2010	End Date: 6/10/2010
Active Datum: RKB @5,235.01ft (above Mean Sea Level)	UWI: SW/SE/0/10/S/21/E/1/0/0/6/PM/S/393.00/E/0/2,439.00/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (ft)	Operation
5/22/2010	5:30 - 7:30	2.00	MIRU	01	A	P		MOVE RIG OVER WELL #4 OF 4 WITH TRUCKS. SPOT IN SUB, CARRIER, PITS, GENERATOR, PUMPS.
	7:30 - 8:30	1.00	MIRU	01	B	P		LEVEL RIG, RAISE DERRICK, RIG UP DOG HOUSE, GENERATOR, PUMPS. PRIME PIT PUMP.
	8:30 - 12:30	4.00	MIRU	14	A	P		INSTALL RISER, FILL PITS, INSTALL OVERFLOW LINE, INSTALL BOWIE LINE, P/U 1.83 BENT HOUSE MOTOR SN 8084 (2ND RUN) M/U Q507 SN 7020056 W/ 7-16'S (1ST RUN).
	12:30 - 13:30	1.00	DRLSUR	02	B	P		SPUD 5/22/2010 12:30, DRILL 49'- 185'.
	13:30 - 15:00	1.50	DRLSUR	06	A	P		LD 6" DC'S , INSTALL BACK BREAK, P/U DIRECTIONAL TOOLS.
	15:00 - 16:00	1.00	DRLSUR	02	D	P		DRILL 185'- 285'. WELL STARTED CROSS COMMUNICATION W/ WELL #3, STOP DRILLING
	16:00 - 17:00	1.00	ALL	06	A	X		LDDS. PULL MOTOR AND BIT COMPLETLY OUT OF HOLE.
	17:00 - 21:30	4.50	ALL	21	D	X		WAIT FOR CEMENTERS. (HANDS OUT OF ROCKSPRING)
	21:30 - 0:00	2.50	ALL	12	F	X		HOLD SAFETY MEETING, RIG UP CEMENTERS, TOP OUT WELL #3 W/ 325 SX OF 15.8#. CEMENT DISPLACING WATER OUT OF WELL #4. CEMENT TO SURFACE. CEMENT FELL AND WATER LEVEL IN WELL #4 FELL 40' . WAIT 1 HR. TOP OUT WELL #3 W/ 90 SX OF 15.8#. CEMENT TO SURFACE AND NO ACTION ON WELL #4. FLUID LEVEL REMAIN CONSTANT. RIG DOWN CEMENTERS.
5/23/2010	0:00 - 4:30	4.50	ALL	13	A	X		WAIT ON CEMENT. WATCH CEMENT SAMPLES TO HARDEN.
	4:30 - 7:30	3.00	ALL	02	F	X		DRILL OUT CEMENT FROM 40'- 285'. INSTALL DIRECTIONAL TOOLS, INSTALL ROT HEAD RUBBER.
	7:30 - 13:00	5.50	DRLSUR	02	D	P		DRILL SLIDE 285'- 890' (605', 110'/HR) WOB 13K, RPM 50, DH RPM 88, GPM 550, ON/OFF PSI 900/700, UP/DOWN/ROT 40/30/34
	13:00 - 14:00	1.00	MAINT	08	A	Z		CHANGE FORWARD HYDRALIC PUMP.
	14:00 - 23:30	9.50	DRLSUR	02	D	P		DRILL 890'- 1634' (744', 78'/HR) WOB 13K, RPM 50, DH RPM 88, GPM 550, ON/OFF PSI 950/800, UP/DOWN/ROT 50/40/44 LOSS PARTIAL CIRC 1480', CIRC HOLE W/ AERATED WATER.
	23:30 - 0:00	0.50	DRLSUR	07	A	P		RIG SERVICE.
5/24/2010	0:00 - 9:00	9.00	DRLSUR	02	D	P		DRILL SLIDE 1634'- 2285' (651', 72.3'/HR) TD 5/24/2010 09:00. WOB 13K, RPM 50, DH RPM 88, GPM 550, ON/OFF PSI 950/800, UP/DOWN/ROT 70/55/60 LOSS PARTIAL CIRC 1480', CIRC HOLE W/ AERATED WATER TO MAINTAIN PIT VOLUME.
	9:00 - 10:30	1.50	CSG	05	F	P		CIRC W/ AERATED WATER AND POLY SWEEPS TO CLEAN HOLE.
	10:30 - 14:00	3.50	CSG	06	D	P		LDDS. LD DIRECTIONAL TOOLS, BREAK DOWN DIRECTIONAL TOOLS FOR INSPECTION. BREAK DOWN BIT AND MOTOR.
	14:00 - 17:00	3.00	CSG	12	C	P		HOLD SAFETY MEETING, RUN 51JTS OF 8-5/8" 28# IJ-55 CSG AND LAND FLOAT SHOE @ 2271'KB, RAN BAFFLE IN TOP OF SHOE JT LANDED 2225' KB. FILL CSG 200', 1400' AND 2271'.

US ROCKIES REGION

Operation Summary Report

Well: NBU 1021-1O3AS [RED]	Spud Conductor: 5/10/2010	Spud Date: 5/22/2010
Project: UTAH-UINTAH	Site: NBU 1021-1O PAD	Rig Name No: ENSIGN 146/146, CAPSTAR 310/310
Event: DRILLING	Start Date: 4/29/2010	End Date: 6/10/2010
Active Datum: RKB @5,235.01ft (above Mean Sea Level)	UWI: SW/SE/0/10/S/21/E/1/0/0/6/PM/S/393.00/E/0/2,439.00/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (ft)	Operation
	17:00 - 18:30	1.50	CSG	12	E	P		PUMP 120 BBLS AHEAD, PUMP 20 BBLS OF GEL WATER FOR SPACER, PUMP 225 SX (46 BBLS) OF 15.8#, 1.15 YD 5 GAL/SK CLASS G 2% CALC + .25 LB/SKS SUPER FLAKES CEMENT. DISPLACE W/ 137.5 BBLS OF H20 W/ 110 PSI LIFT @ 2.5 BBLS A MINUTE. BUMP PLUG 500 PSI. FLOAT HELD. NO CIRC THROUGH OUT JOB. TOP OUT W/ 100 SX (20.2 BBLS) 15.8#, 1.15 YD, 5 GAL/ SK 2% CALC CEMENT. RIG DOWN HEAD.
	18:30 - 22:00	3.50	CSG	02	D	P		CUT OFF AND HANG RISER AND AND ROT HEAD. INSTALL HANG OFF BAR. LAND CSG AND BREAK OFF LANDING JT. CUT OFF CSG COLLAR AND TACK CAP ON TOP OF CSG. BREAK DOWN BOWIE LINE. CLEAN PITS. RELEASE RIG 5/24/2010 22:00. (
	22:00 - 0:00	2.00	CSG	12	E	P		TOP OUT W/ 150 SX (30.4) BBLS OF 15.8#, 1.15 YD, 5 GAL/SK, 3% CALC DOWN BACKSIDE. NO CEMENT TO SURFACE. WAIT 1.5 HRS, TOP OUT W/ 150 SX OF SAME CEMENT. NO CEMENT TO SURFACE. WAIT 1.5 HRS PUMP 150 SX OF SAME CEMENT, NO CEMENT TO SURFACE. WAIT 1.5 HRS AND PUMP 150 MORE SX DOWN BACKSIDE. NO CEMENT TO SURFACE.WILL REDIMIX.
5/31/2010	3:00 - 5:00	2.00	RDMO	01	E	P		SKID RIG FORWARD 60'
	5:00 - 10:00	5.00	RDMO	01	E	P		RDRT
	10:00 - 18:00	8.00	RDMO	01	A	P		MOVE OUT & SET IN RIG - 30% MOVED (TRUCKS ON LOCATION @ 10:00, 5 TRUCKS & 2 FORKLIFTS)
	18:00 - 0:00	6.00	RDMO	01	E	P		RDRT (IDLE)
6/1/2010	0:00 - 6:00	6.00	RDMO	01	E	P		RDRT (IDLE)
	6:00 - 13:30	7.50	MIRU	01	A	P		MOVE & SET IN RIG - RURT (JONES TRUCKING 10 TRUCKS 2 FORKLIFTS - TRUCKS OFF LOCATION @ 13:30)
	13:30 - 0:00	10.50	MIRU	01	B	P		RURT - 90% RIGGED UP
6/2/2010	0:00 - 4:30	4.50	MIRU	01	B	P		RURT
	4:30 - 7:30	3.00	DRLPRO	14	A	P		N/UP BOPE, HOOKUP FLOWLINE, L/OUT PANIC & FLARE LINES, HOOKUP IGNITER
	7:30 - 13:00	5.50	DRLPRO	15	A	P		TEST BOPE, RAMS, CHOKE, CHOKE LINE, MANUAL VALVES, FLOOR VALVES, HCR & IBOP 250 LOW 5000 HIGH, ANNULAR 250 LOW 2500 HIGH, CASING 1500
	13:00 - 13:30	0.50	DRLPRO	14	B	P		INSTALL WEARBUSHING
	13:30 - 18:00	4.50	DRLPRO	06	A	P		P/U NEW BIT & MOTOR, SCRIBE TOOLS, R.I.H
	18:00 - 20:00	2.00	DRLPRO	08	B	Z		PLC CARDS FOR DRAWWORKS - TROUBLESHOOT - FOUND CARDS LOOSE IN SOCKETS - RESET ALL CARDS
	20:00 - 21:00	1.00	DRLPRO	06	A	P		CONT RIH TAG CEMENT @ 2185'
	21:00 - 22:00	1.00	DRLPRO	07	B	P		INSTALL ROTATING HEAD, CENTER & LEVEL DERRICK
	22:00 - 0:00	2.00	DRLPRO	02	F	P		DRILL CEMENT, FE & RATHOLE F/2185' TO 2290'
6/3/2010	0:00 - 8:00	8.00	DRLPRO	02	D	P		DRILL/SLIDE F/2290' TO 3414' (1124' @ 140fph) MW 8.4, VIS 27, WOB 20, RPM 35, MM RPM 1410, TQ 8, GPM 500, PSI OFF/ON 1125/1550, SLIDE 3369 3384, WOB 20, MM RPM 140, GPM 500, DIFF 375 (15'/1/2 hr.1% SLIDE - 1109'/7.5 hr 99.9% ROT)
	8:00 - 8:30	0.50	DRLPRO	07	A	P		RIG SER

US ROCKIES REGION

Operation Summary Report

Well: NBU 1021-1O3AS [RED]	Spud Conductor: 5/10/2010	Spud Date: 5/22/2010
Project: UTAH-UINTAH	Site: NBU 1021-1O PAD	Rig Name No: ENSIGN 146/146, CAPSTAR 310/310
Event: DRILLING	Start Date: 4/29/2010	End Date: 6/10/2010
Active Datum: RKB @5,235.01ft (above Mean Sea Level)	UWI: SW/SE/0/10/S/21/E/1/0/0/6/PM/S/393.00/E/0/2,439.00/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (ft)	Operation
	8:30 - 18:00	9.50	DRLPRO	02	D	P		DRILL/SLIDE F/3414' TO 4729' (1315' @ 138fph) MW 8.4, VIS 27, WOB 20, RPM 35, MM RPM 140, TQ 10, GPM 500, PSI OFF/ON 1175/1600 SLIDE 4095 4110, WOB 20, MM RPM 140, GPM 500, DIFF 375 (15'/1/2 hr .1% SLIDE - 1300'/9 hr 99.9% ROT)
	18:00 - 18:30	0.50	DRLPRO	08	B	Z		TOPDRIVE - UNABLE TO ROTATE QUILL - RESET CONTROLS STARTED WORKING
	18:30 - 0:00	5.50	DRLPRO	02	D	P		DRILL/SLIDE F/4729' TO 5530' (801' @ 145fph) MW 8.4, VIS 27, WOB 20, RPM 35, MM RPM 140, TQ 10, GPM 500, PSI OFF/ON /13501875, SLIDE 4729 2744, 4820 4836, 5364, 5378, WOB 20, MM RPM 140, GPM 500, DIFF 375 (46'/1.5 hr 27% SLIDE - 755'/4 hr 73% ROT)
6/4/2010	0:00 - 6:30	6.50	DRLPRO	02	D	P		DRILL/SLIDE F/5530' TO 6317' (787' @ 121fph) MW 8.5, VIS 29, WOB 20, RPM 35, MM RPM 140, TQ 10, GPM 500, SLIDE 5998 6010, WOB 20, MM RPM 140, GPM 500, DIFF 375, (12'/1/2 hr SLIDE - 866'/6 hr ROT)
	6:30 - 8:30	2.00	DRLPRO	22	G	X		LOST RETURNS - BUILD VOLUME RAISE LCM - REGAIN RETURNS - LOST 280 BBLS
	8:30 - 16:00	7.50	DRLPRO	02	D	P		DRILL/SLIDE F/6317' TO 6905' (588' @ 78.4fph) MW 9.3, VIS 40, LCM 28%, WOB 20, RPM 35, MM RPM 120, TQ 10, GPM 430, PSI OFF/ON 1250/1600, 100% ROT, (LOST 500 BBLS)
	16:00 - 16:30	0.50	DRLPRO	07	A	P		RIG SER
	16:30 - 0:00	7.50	DRLPRO	02	D	P		DRILL/SLIDE F/6905' TO 7275' (370' @ 50fph) MW 10.3, VIS 40, LCM 34%, RPM 35, MM RPM 130, TQ 10, GPM 470, PSI OFF/ON 1325/1675 SLIDE 6996 7012, 7086 7098, SLIDE 28'/1 hr 1% - 3742'/6.5 hr 99% ROT, (LOST 225 BBLS)
6/5/2010	0:00 - 3:00	3.00	DRLPRO	02	D	P		DRILL/SLIDE F/7275' TO 7404' (1239' @ 43fph) MW 10.3, VIS 40, LCM 34%, WOB 20, RPM 35, MM RPM 130, TQ 9, GPM 470, PSI OFF/ON 11325/1675 - (100% ROT) LOSING RETURNS LOST 350 BBLS
	3:00 - 5:00	2.00	DRLPRO	22	G	X		POOH 20 STDS TO 5509'
	5:00 - 12:00	7.00	DRLPRO	22	G	X		BUILD MUD VOLUME, TRANSFER MUD F/H&P 298 & ENSIGN 139 - CIRC HEAVY LOSSES - MW 10.1, VIS 39, LCM 30% (LOST 300 bbls)
	12:00 - 14:30	2.50	DRLPRO	22	G	X		RIH F/5509' TO 6409' - BRK CIRC W/GOOD RETURNS NO LOSSES - CONT RIH F/6409' TO 7400' - BRK CIRC W/GOOD RETURNS NO LOSSES
	14:30 - 18:30	4.00	DRLPRO	02	D	P		DRILL/SLIDE F/7404' TO 7585' (181' @ 45fph) MW 10.4, VIS 39, LCM 30%, WOB 20, RPM 30, MM RPM 112, TQ 9, GPM 400, (100% ROT)
	18:30 - 19:30	1.00	DRLPRO	08	B	Z		TOPDRIVE - UNABLE TO ROTATE QUILL - RESET CONTROLS - CHANGED OUT PLC CARDS
	19:30 - 23:00	3.50	DRLPRO	02	D	P		DRILL/SLIDE F/7585' TO 7726' (141' @ 40fph) MW 10.7, VIS 39, LCM 34%, WOB 22, RPM 30, MM RPM 117, TQ 9, GPM 420, PSI OFF/ON 1300/1520 SLIDE 7630 7642, WOB 22, MM RPM 117, GPM 420, DIFF 200 - (12'/1/2 hr 1% SLIDE - 129'/3 hr 99% ROT) (LOST 175 BBLS)
	23:00 - 0:00	1.00	DRLPRO	08	B	Z		TOPDRIVE - UNABLE TO ROTATE QUILL - RESET CONTROLS - TROUBLESHOOT - (TOPDRIVE TECHS ON LOCATION)
6/6/2010	0:00 - 2:30	2.50	DRLPRO	08	B	Z		REPAIR TOPDRIVE - UNABLE TO ROTATE QUILL - OIL PRESSURE SENSOR FAULTY - BYPASSED PRESSURE SENSOR
	2:30 - 15:00	12.50	DRLPRO	02	D	P		DRILL/SLIDE F/7726' TO 8310' (584' @ 46fph) MW 10.7, 34% LCM, WOB 22, RPM 30, MM RPM 117, TQ 9, GPM 420, PSI ON/OFF 13501625 (LOST 380 BBLS MUD)

US ROCKIES REGION

Operation Summary Report

Well: NBU 1021-1O3AS [RED]	Spud Conductor: 5/10/2010	Spud Date: 5/22/2010
Project: UTAH-UINTAH	Site: NBU 1021-1O PAD	Rig Name No: ENSIGN 146/146, CAPSTAR 310/310
Event: DRILLING	Start Date: 4/29/2010	End Date: 6/10/2010
Active Datum: RKB @5,235.01ft (above Mean Sea Level)	UWI: SW/SE/0/10/S/21/E/1/0/0/6/PM/S/393.00/E/0/2,439.00/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (ft)	Operation
	15:00 - 15:30	0.50	DRLPRO	07	A	P		RIG SER
	15:30 - 16:00	0.50	DRLPRO	02	D	P		DRILL/SLIDE F/8310' TO 8335' (25') MW 11.1, LCM 35%, WOB 22/24, RPM 30, MM RPM 117, TQ 9, GPM 420 - ATTEMPT TO RAISE MW TO 11.2 - UNABLE TO KEEP UP WITH LOSSES
	16:00 - 18:00	2.00	DRLPRO	22	G	X		LOSING RETURNS - LOST 260 BBLS - P/UP BUILD VOLUME - BUILD SLUG
	18:00 - 21:00	3.00	DRLPRO	06	A	P		POOH TO 5612'
	21:00 - 21:30	0.50	DRLPRO	08	A	Z		POWER SHOE ON IRON DERRICKHAND - STUCK ON STAND - RELEASE MANUALLY
	21:30 - 23:00	1.50	DRLPRO	06	A	P		POOH TO 4000'
	23:00 - 23:30	0.50	DRLPRO	08	A	Z		POWER SHOE ON IRON DERRICKHAND - STUCK ON STAND - RELEASE MANUALLY
	23:30 - 0:00	0.50	DRLPRO	06	A	P		POOH TO 3100'
6/7/2010	0:00 - 0:30	0.50	DRLPRO	08	A	Z		POWER SHOE ON IRON DERRICKHAND - STUCK ON STAND - RELEASE MANUALLY - RESET TIMING ON SHOE DIE INSERTS
	0:30 - 4:30	4.00	DRLPRO	06	A	P		POOH, RACK BACK DIRECTIONAL BHA, L/OUT MM & BIT
	4:30 - 5:30	1.00	DRLPRO	08	B	Z		REPAIR TOPDRIVE - REPLACE OIL PUMP & OIL PRESSURE SENSOR
	5:30 - 6:00	0.50	DRLPRO	07	A	P		RIG SER
	6:00 - 15:30	9.50	DRLPRO	06	A	P		P/UP MM & BIT - RIH TO 8288' - WASH F/8288' TO 8335' - BRK CIRC @ 2200', 4000', 6000'
	15:30 - 20:00	4.50	DRLPRO	05	A	P		CIRC W/GOOD RETURNS NO LOSSES MW 11.1, LCM 42% - RAISE MW TO 11.5 LCM 40% - MINIMAL LOSSES 7 BBLS PER/HR
	20:00 - 0:00	4.00	DRLPRO	02	D	P		DRLG F/8335' TO 8565' (230' @ 57.5fph) MW 11.5, LCM 45%, WOB 20, RPM 30, MM RPM 115, TQ 8, GPM 413 (ATTEMPT TO RAISE MW TO 11.6 PARITIAL RETURNS LOST 450 BBLS LET MW FALL BACK TO 11.5)
6/8/2010	0:00 - 13:00	13.00	DRLPRO	02	D	P		DRLG F/8565' TO 9062' (497' @ 38fph) MW 11.5, LCM 40%, WOB 22, RPM 30, MM RPM 115, TQ 10, GPM 413, PSI OFF/ON 1350/1879
	13:00 - 13:30	0.50	DRLPRO	07	A	P		RIG SER
	13:30 - 0:00	10.50	DRLPRO	02	D	P		DRLG F/9062' TO 9295' (233' @ 22fph) MW 11.6, LCM 40%, WOB 24, RPM 30, MM RPM 115, TQ 10, GPM 413, PSI OFF/ON 1400/1775
6/9/2010	0:00 - 9:00	9.00	DRLPRO	02	D	P		DRLG F/9295' TO 9444' - 149 FT. 16.5 FT. PER HR, MW 11.6, VIS 45, LCM 40%, WOB 26, RPM 30, MMRPM 115, TQ. 10. GPM 413, PSI OFF/ON 1400/1800, TD WELL @ 0900 HRS. 6-9-10 9444 FT.
	9:00 - 10:30	1.50	DRLPRO	05	C	P		CIRC. 2 BTMS. UP
	10:30 - 11:30	1.00	DRLPRO	08	A	Z		TOPDRIVE WOULD NOT BITE ON PIPE TO BREAK, BROKE OUT STD. & CHANGED OUT DIES ON GRABBER
	11:30 - 15:00	3.50	DRLPRO	06	E	P		WIPER TRIP 20 STDS. - PUMPED OUT 8
	15:00 - 15:30	0.50	DRLPRO	07	A	P		RIG SERVICE
	15:30 - 17:00	1.50	DRLPRO	05	C	P		CIRC. 2 BTMS. UP
	17:00 - 0:00	7.00	DRLPRO	06	B	P		TRIP OUT FOR LOGS, PUMPED 5 STDS. OUT
6/10/2010	0:00 - 2:00	2.00	DRLPRO	06	B	P		T.O.H FOR LOGS
	2:00 - 7:00	5.00	DRLPRO	11	D	P		RIG UP & RUN OPEN HOLE LOGS - LOGGERS TD 9438 FT.
	7:00 - 17:30	10.50	DRLPRO	12	C	P		RIG UP & RAN 224 JTS. 4 1/2 11.6, I-80, BTC CASING, LANDED @ 9428.46, FLOAT COLLAR @ 9404.39

US ROCKIES REGION

Operation Summary Report

Well: NBU 1021-1O3AS [RED]	Spud Conductor: 5/10/2010	Spud Date: 5/22/2010
Project: UTAH-UINTAH	Site: NBU 1021-1O PAD	Rig Name No: ENSIGN 146/146, CAPSTAR 310/310
Event: DRILLING	Start Date: 4/29/2010	End Date: 6/10/2010
Active Datum: RKB @5,235.01ft (above Mean Sea Level)	UWI: SW/SE/0/10/S/21/E/1/0/0/6/PM/S/393.00/E/0/2,439.00/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (ft)	Operation
	17:30 - 18:30	1.00	DRLPRO	05	D	P		CIRC. THROUGH CASING, 5 FT. FLARE @ BTMS. UP
	18:30 - 21:30	3.00	DRLPRO	12	E	P		HELD SAFETY MEETING W/ BJ SERVICES, RIGGED UP & PUMPED 40 BBL. SPACER, LEAD W/ 407 SKS. 181 BBLS. 11.7#, 2.50 YIELD, TAIL W/ 1090 SKS. 254 BBLS. 14.3#, 1.31 YIELD, DISPLACED W/ 146 BBLS. WATER, BUMPED PLUG, FLOATS HELD, FINAL LIFT PSI 2360, 1 1/2 BBLS BACK TO TRUCK, 10 BBLS. CEMENT TO RESERVE PIT
	21:30 - 23:59	2.48	DRLPRO	14	A	P		NIPPLE DOWN BOP, CLEAN MUD TANKS, RELEASED RIG @ 23:59 HRS. 6/10/2010

Operation Summary Report

Well: NBU 1021-1O3AS [RED]	Spud Conductor: 5/10/2010	Spud Date: 5/22/2010
Project: UTAH-UINTAH	Site: NBU 1021-1O PAD	Rig Name No: ENSIGN 146/146, CAPSTAR 310/310
Event: DRILLING	Start Date: 4/29/2010	End Date: 6/10/2010
Active Datum: RKB @5,235.01ft (above Mean Sea Level)	UWI: SW/SE/0/10/S/21/E/1/0/0/6/PM/S/393.00/E/0/2,439.00/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (ft)	Operation
	23:59 - 23:59	0.00	DRLPRO					CONDUCTOR CASING: Cond. Depth set: 44 Cement sx used: N/A SPUD DATE/TIME: 5/22/2010 12:30 SURFACE HOLE: Surface From depth: 49 Surface To depth: 2,285 Total SURFACE hours: 25.00 Surface Casing size: 8 5/8 # of casing joints ran: 51 Casing set MD: 2,276.0 # sx of cement: 325 Cement blend (ppg:) 15.8 Cement yield (ft3/sk): 1.15 # of bbls to surface: NO CEMENT TO SURFACE Describe cement issues: NO RETURNS TOP OUT W 100 SXS. Describe hole issues: CROSS COMMUNICATION WITH WELL #3 PRODUCTION: Rig Move/Skid start date/time: 5/31/2010 10:00 Rig Move/Skid finish date/time: 6/2/2010 4:30 Total MOVE hours: 42.5 Prod Rig Spud date/time: 6/2/2010 22:00 Rig Release date/time: 6/10/2010 23:59 Total SPUD to RR hours: 194.0 Planned depth MD 9,458 Planned depth TVD 9,423 Actual MD: 9,444 Actual TVD: 9,409 Open Wells $: $888,191 AFE $: $707,397 Open wells $/ft: $92.35 PRODUCTION HOLE: Prod. From depth: 1,955 Prod. To depth: 9,444 Total PROD hours: 104.5 Log Depth: 9438 Production Casing size: 4 1/2 # of casing joints ran: 224 Casing set MD: 9,428.5 # sx of cement: L 407 T 1090 Cement blend (ppg:) L 11.7 T 14.3 Cement yield (ft3/sk): L 2.5 T 1.31 Est. TOC (Lead & Tail) or 2 Stage : 3300 Describe cement issues: 10 BBLS. CMT. TO PIT Describe hole issues: DIRECTIONAL INFO: KOP: 185 Max angle: 12.25 Departure: 389.96 Max dogleg MD: 2.31

US ROCKIES REGION

Operation Summary Report

Well: NBU 1021-1O3AS [RED]	Spud Conductor: 5/10/2010	Spud Date: 5/22/2010	
Project: UTAH-UINTAH	Site: NBU 1021-1O PAD		Rig Name No: MILES-GRAY 1/1
Event: COMPLETION	Start Date: 8/13/2010		End Date: 8/20/2010
Active Datum: RKB @5,235.01ft (above Mean Sea Level)	UWI: SW/SE/0/10/S/21/E/1/0/0/6/PM/S/393.00/E/0/2,439.00/0/0		

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (ft)	Operation
8/16/2010	7:00 - 10:00	3.00	COMP	48		P		MIRU, HSM, PERF & FRACING
	10:00 - 18:00	8.00	COMP	36	E	P		STG #1] MIRU, CASED HOLE SOLUTIONS & FRAC TECH, 1ST SHOOT MESAVERDE USING 3-3/8 EXPEND, 23 GRM, 0.36" HOLE 8952'-8954' 4 SPF, 90* PH, 8 HOLES. 8772'-8774' 4 SPF, 90* PH, 8 HOLES. 8718'-8720' 4 SPF, 90* PH, 8 HOLES. [24 HOLES] STG #1] WHP=802#, BRK DN PERFS=2858#, INJ RT=49 , INJ PSI=5687#, ISIP=910#, FG=.54, PUMP'D 1588 BBLS SLK WTR W/ 56336# 30/50 MESH W/ 5000# RESIN COAT IN TAIL, ISIP=1916#, FG=.65, AR=49, AP=4200#, MR=52, MP=6664#, NPI=1006#, 19/24 CALC PERFS OPEN. STG #2] P/U RIH W/ HALIBURTON 8K CBP & PERF GUN, SET CBP @ 8314' PERF MESAVERDE USING 3-3/8 EXPEND, 23 GRM, 0.36" HOLE 8282'-8284' 3 SPF, 120* PH, 6 HOLES. 8248'-8250 4 SPF, 90* PH, 8 HOLES. 8229'-8230' 4 SPF, 90* PH, 4 HOLES. 8084'-8086' 3 SPF, 120* PH, 6 HOLES. [24 HOLES] STG #2] WHP=1520#, BRK DN PERFS=2645#, INJ RT=50.5, INJ PSI=4368#, ISIP=1709#, FG=.64, PUMP'D 730 BBLS SLK WTR W/ 23588# 30/50 MESH W/ 5000# RESIN COAT IN TAIL, ISIP=2330#, FG=.71, AR=, AP=#, MR=, MP=#, NPI=#, 24/24 CALC PERFS OPEN. STG #3] P/U RIH W/ HALIBURTON 8K CBP & PERF GUN, SET CBP @ ' PERF MESAVERDE USING 3-3/8 EXPEND, 23 GRM, 0.36" HOLE 7999'-8000' 3 SPF, 120* PH, 3 HOLES. 7976'-7978' 3 SPF, 120* PH, 6 HOLES. 7921'-7922' 4 SPF, 90* PH, 4 HOLES. 7865'-7866' 4 SPF, 90* PH, 4 HOLES. 7848'-7849' 3 SPF, 120* PH, 3 HOLES. 7773'-7774' 3 SPF, 120* PH, 3 HOLES. [23 HOLES] SWIFN.
8/17/2010	6:30 - 6:45	0.25	COMP	48		P		HSM, PINCH POINTS

Operation Summary Report

Well: NBU 1021-1O3AS [RED]	Spud Conductor: 5/10/2010	Spud Date: 5/22/2010
Project: UTAH-UINTAH	Site: NBU 1021-1O PAD	Rig Name No: MILES-GRAY 1/1
Event: COMPLETION	Start Date: 8/13/2010	End Date: 8/20/2010
Active Datum: RKB @5,235.01ft (above Mean Sea Level)	UWI: SW/SE/0/10/S/21/E/1/0/0/6/PM/S/393.00/E/0/2,439.00/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (ft)	Operation
	6:45 - 6:45	0.00	COMP	36	E	P		FRAC STG #3 MESAVERDE 8084'-8284', [23 HOLES] STG #3] WHP=1137#, BRK DN PERFS=3252#, INJ RT=50 , INJ PSI=4100#, ISIP=2131#, FG=.70, PUMP'D 1014 BBLS SLK WTR W/ 35833# 30/50 MESH W/ 5000# RESIN COAT IN TAIL, ISIP=2665#, FG=.77, AR=50, AP=4100#, MR=50.9, MP=5137#, NPI=534#, 23/23 CALC PERFS OPEN. STG #4] P/U RIH W/ HALIBURTON 8K CBP & PERF GUN, SET CBP @ ' PERF MESAVERDE USING 3-3/8 EXPEND, 23 GRM, 0.36" HOLE. 7654'-7656' 3 SPF, 120* PH, 6 HOLES. 7589'-7591' 3 SPF, 120* PH, 6 HOLES. 7529'-7530' 3 SPF, 120* PH, 3 HOLES. 7487'-7489' 3 SPF, 120* PH, 6 HOLES. 7438'-7439' 3 SPF, 120* PH, 3 HOLES. [24 HOLES] STG #4] WHP=972#, BRK DN PERFS=3747#, INJ RT=51.1, INJ PSI=4368#, ISIP=1332#, FG=.61, PUMP'D 1323 BBLS SLK WTR W/ 51461# 30/50 MESH W/ 5000# RESIN COAT IN TAIL, ISIP=2114#, FG=.71, AR=51.5, AP=3500#, MR=52.3, MP=4542#, NPI=782#, 24/24 CALC PERFS OPEN. STG #5] P/U RIH W/ HALIBURTON 8K CBP & PERF GUN, SET CBP @ 7327' PERF MESAVERDE/ WASATCH USING 3-3/8 EXPEND, 23 GRM, 0.36" HOLE. 7295'-7297' 3 SPF, 120* PH, 6 HOLES 7268'-7270' 3 SPF, 120* PH, 6 HOLES 7173'-7175' 3 SPF, 120* PH, 6 HOLES WASATCH 7094'-7095' 3 SPF, 120* PH, 3 HOLES WASATCH 7038'-7039' 3 SPF, 120* PH, 3 HOLES WASATCH STG #5] WHP=760#, BRK DN PERFS=2304#, INJ RT=50 , INJ PSI=3582#, ISIP=1338#, FG=.61, PUMP'D 1575 BBLS SLK WTR W/ 73796# 30/50 MESH W/ 5000# RESIN COAT IN TAIL, ISIP=1985#, FG=.71, AR=51.2, AP=3200#, MR=51.9, MP=4537#, NPI=647#, 24/24 CALC PERFS OPEN. STG #6] P/U RIH W/ HALIBURTON 8K CBP & PERF GUN, SET CBP @ 6398' PERF WASATCH USING 3-3/8 EXPEND, 23 GRM, 0.36" HOLE. 6365'-6368' 4 SPF, 90* PH, 12 HOLES. 6354'-6357' 4 SPF, 90* PH, 12 HOLES. [24 HOLES] STG #6] WHP=477#, BRK DN PERFS=3252#, INJ RT=53, INJ PSI=3200#, ISIP=1777#, FG=.71, PUMP'D 648 BBLS SLK WTR W/ 26287# 30/50 MESH W/ 5000# RESIN COAT IN TAIL, ISIP=1895#, FG=.73, AR=51, AP=2900#, MR=58.5, MP=3936#, NPI=118#, 24/24 CALC PERFS OPEN. STG #7] P/U RIH W/ HALIBURTON 8K CBP & PERF GUN, SET CBP @ 5696' PERF WASATCH USING 3-3/8 EXPEND, 23 GRM, 0.36" HOLE. 5664'-5666' 4 SPF, 90* PH, 8 HOLES. 5480'-5484' 4 SPF, 90* PH, 16 HOLES. [24 HOLES] SWIFN.
8/18/2010	6:45 - 7:00	0.25	COMP	48		P		HSM

US ROCKIES REGION

Operation Summary Report

Well: NBU 1021-1O3AS [RED]	Spud Conductor: 5/10/2010	Spud Date: 5/22/2010
Project: UTAH-UINTAH	Site: NBU 1021-1O PAD	Rig Name No: MILES-GRAY 1/1
Event: COMPLETION	Start Date: 8/13/2010	End Date: 8/20/2010
Active Datum: RKB @5,235.01ft (above Mean Sea Level)	UWI: SW/SE/0/10/S/21/E/1/0/0/6/PM/S/393.00/E/0/2,439.00/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (ft)	Operation
	7:00 - 7:00	0.00	COMP	36	E	P		FRAC STG #7 WASATCH 5480'-5666' [24 HOLES] STG #7] WHP=477#, BRK DN PERFS=2062#, INJ RT=53, INJ PSI=2817#, ISIP=708#, FG=.56, PUMP'D 716 BBLS SLK WTR W/ 27619# 30/50 MESH W/ 5000# RESIN COAT IN TAIL, ISIP=1552#, FG=.71, AR=51.7, AP=2700#, MR=52.3, MP=3617#, NPI=844#, 24/24 CALC PERFS OPEN. P/U RIH W/ HALIBURTON 8K CBP & SET FOR TOP KILL @ 5430' TOTAL SAND=294,920# TOTAL WTR=7,594 BBLS
8/19/2010	7:00 - 7:30	0.50	COMP	48		P		HSM, RIGGING DWN & MOVING EQUIP.
	7:30 - 17:00	9.50	COMP	31	I	P		RD OFF NBU 922-290, MIRU ND FRAC VALVES NU BOPS RU FLOOR & EQUIP TALLY & PU 37/8 BIT, POBS, 1.875 X/N & 77 JTS 23/8 L-80 OFF FLOAT, EOT @ 2425'. HAD TO SHUT DWN A COUPLE OF TIMES DUE TO HEAVEY RAIN & LIGHTNING, SDFN
8/20/2010	7:00 - 7:30	0.50	COMP	48		P		HSM, WORKING W/ POWER SWIVEL, WATCH LOOSE CLOTHING

US ROCKIES REGION

Operation Summary Report

Well: NBU 1021-1O3AS [RED]	Spud Conductor: 5/10/2010	Spud Date: 5/22/2010
Project: UTAH-UINTAH	Site: NBU 1021-1O PAD	Rig Name No: MILES-GRAY 1/1
Event: COMPLETION	Start Date: 8/13/2010	End Date: 8/20/2010
Active Datum: RKB @5,235.01ft (above Mean Sea Level)	UWI: SW/SE/0/10/S/21/E/1/0/0/6/PM/S/393.00/E/0/2,439.00/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (ft)	Operation
	7:30 - 15:00	7.50	COMP	31	I	P		PU REM 95 JTS 23/8 L-80 OFF FLOAT TAG UP @ 5415' RU DRLG EQUIP, BROKE CIRC CONVENTIONAL. TEST BOPS TO 3,000# PSI, RIH. C/O 15' SAND TAG 1ST PLUG @ 5430' DRL PLG IN 6 MIN 0# PSI INCREASE RIH. C/O 30' SAND TAG 2ND PLUG @ 5696' DRL PLG IN 4 MIN 200# PSI INCREASE RIH. C/O 30' SAND TAG 3RD PLUG @ 6398' DRL PLG IN 12 MIN 400# PSI INCREASE RIH. C/O 30' SAND TAG 4TH PLUG @ 7327' DRL PLG IN 2 MIN 200# PSI INCREASE RIH. C/O 30' SAND TAG 5TH PLUG @ 7686' DRL PLG IN 8 MIN 500# PSI INCREASE RIH. C/O 30' SAND TAG 6TH PLUG @ 8030' DRL PLG IN 10 MIN 400# PSI INCREASE RIH. C/O 30' SAND TAG 7TH PLUG @ 8314' DRL PLG IN 4 MIN 300# PSI INCREASE RIH. C/O TO PBTD @ 9404' CIRC CLEAN, RD SWIVEL. L/D 33 JTS TBG, LAND TBG ON 254 JTS. ND BOPS NU WH, PMP OFF BIT LET WELL SET FOR 30 MIN FOR BIT TO FALL, TURN OVER TO FB CREW. SDFWE. KB = 18' 71/16 HANGER .83' 254 JTS 23/8 L-80 = 8024.33' POBS & 1.875 X/N = 2.20' EOT @ 8045.36' 315 JTS HAULED OUT 254 LANDED 61 TO RETURN TWTR = 7894 BBLS TWR = 1000 BBLS TWLTR = 6894 BBLS
8/21/2010	7:00 -			33	A			7 AM FLBK REPORT: CP 1300#, TP 1100#, 20/64" CK, 52 BWPH, TRACE SAND, LIGHT GAS TTL BBLS RECOVERED: 1894 BBLS LEFT TO RECOVER: 6000
	11:00 -		PROD	50				WELL TURNED TO SALES @ 1100 HR ON 8/21/10 - 360 MCFD, 1248 BWPD, CP 1300#, FTP 1100#, CK 20/64"
8/22/2010	7:00 -			33	A			7 AM FLBK REPORT: CP 1325#, TP 1050#, 20/64" CK, 50 BWPH, TRACE SAND, - GAS TTL BBLS RECOVERED: 3120 BBLS LEFT TO RECOVER: 4774
8/23/2010	7:00 -			33	A			7 AM FLBK REPORT: CP 1700#, TP 950#, 20/64" CK, 36 BWPH, TRACE SAND, - GAS TTL BBLS RECOVERED: 4058 BBLS LEFT TO RECOVER: 3836
8/24/2010	7:00 -			33	A			7 AM FLBK REPORT: CP 2500#, TP 950#, 20/64" CK, 25 BWPH, TRACE SAND, - GAS TTL BBLS RECOVERED: 4806 BBLS LEFT TO RECOVER: 3088

US ROCKIES REGION

Operation Summary Report

Well: NBU 1021-1O3AS [RED]	Spud Conductor: 5/10/2010	Spud Date: 5/22/2010	
Project: UTAH-UINTAH	Site: NBU 1021-1O PAD		Rig Name No: MILES-GRAY 1/1
Event: COMPLETION	Start Date: 8/13/2010		End Date: 8/20/2010
Active Datum: RKB @5,235.01ft (above Mean Sea Level)	UWI: SW/SE/0/10/S/21/E/1/0/0/6/PM/S/393.00/E/0/2,439.00/0/0		

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (ft)	Operation
8/29/2010	7:00 -							WELL IP'D ON 8/29/10 - 738 MCFD,0 BOPD, 685 BWPD, CP #1399, FTP 682#, CK 20/64", LP 130#, 24 HRS

1 General

1.1 Customer Information

Company	US ROCKIES REGION
Representative	
Address	

1.2 Well Information

Well	NBU 1021-1O3AS [RED]	**Wellbore No.**	OH
Well Name	NBU 1021-1O3AS	**Common Name**	NBU 1021-1O3AS
Project	UTAH-UINTAH	**Site**	NBU 1021-1O PAD
Vertical Section Azimuth	93.37 (°)	**North Reference**	True
Origin N/S		**Origin E/W**	
Spud Date	5/22/2010	**UWI**	SW/SE/0/10/S/21/E/1/0/0/6/PM/S/393.00/E/0/2,439.00/0/0
Active Datum	RKB @5,235.01ft (above Mean Sea Level)		

2 Survey Name

2.1 Survey Name: Survey #1

Survey Name	Survey #1	**Company**	WEATHERFORD
Started	5/23/2010	**Ended**	
Tool Name	MWD	**Engineer**	JASON POSTMA

2.1.1 Tie On Point

MD (ft)	Inc (°)	Azi (°)	TVD (ft)	N/S (ft)	E/W (ft)
5.00	0.00	0.00	5.00	0.00	0.00

2.1.2 Survey Stations

Date	Type	MD (ft)	Inc (°)	Azi (°)	TVD (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLeg (°/100ft)	Build (°/100ft)	Turn (°/100ft)	TFace (°)
5/23/2010	Tie On	5.00	0.00	0.00	5.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NORMAL	204.00	0.69	186.99	204.00	-1.19	-0.15	-0.08	0.35	0.35	0.00	186.99
5/23/2010	NORMAL	268.00	0.76	140.08	267.99	-1.90	0.08	0.19	0.91	0.11	-73.30	-107.10
	NORMAL	364.00	1.94	76.61	363.97	-2.01	2.07	2.18	1.81	1.23	-66.11	-86.48
	NORMAL	459.00	3.88	72.87	458.84	-0.69	6.71	6.73	2.05	2.04	-3.94	-7.46
	NORMAL	554.00	5.94	81.99	553.49	0.94	14.65	14.57	2.31	2.17	9.60	25.34
	NORMAL	650.00	7.63	91.74	648.82	1.44	25.94	25.81	2.12	1.76	10.16	39.19
	NORMAL	746.00	9.50	93.12	743.74	0.82	40.22	40.10	1.96	1.95	1.44	6.95
	NORMAL	841.00	10.88	94.49	837.24	-0.31	56.99	56.91	1.47	1.45	1.44	10.64
	NORMAL	937.00	11.50	93.99	931.42	-1.69	75.56	75.53	0.65	0.65	-0.52	-9.14
	NORMAL	1,032.00	12.25	93.12	1,024.38	-2.90	95.08	95.08	0.81	0.79	-0.92	-13.85
	NORMAL	1,128.00	12.13	97.74	1,118.22	-4.81	115.24	115.32	1.02	-0.12	4.81	99.27
	NORMAL	1,223.00	11.69	98.86	1,211.17	-7.64	134.64	134.86	0.52	-0.46	1.18	152.83
	NORMAL	1,320.00	11.44	95.74	1,306.21	-10.11	153.92	154.25	0.69	-0.26	-3.22	-113.31
	NORMAL	1,415.00	11.94	92.87	1,399.24	-11.55	173.11	173.49	0.81	0.53	-3.02	-50.72
	NORMAL	1,511.00	11.81	91.24	1,493.18	-12.25	192.85	193.24	0.37	-0.14	-1.70	-111.98
	NORMAL	1,606.00	11.00	95.48	1,586.31	-13.33	211.59	212.01	1.23	-0.85	4.46	136.08
5/24/2010	NORMAL	1,702.00	11.25	96.24	1,680.50	-15.22	230.02	230.52	0.30	0.26	0.79	30.77
	NORMAL	1,797.00	10.06	95.24	1,773.86	-16.99	247.49	248.06	1.27	-1.25	-1.05	-171.66
	NORMAL	1,892.00	9.94	93.87	1,867.42	-18.30	263.94	264.56	0.28	-0.13	-1.44	-117.44
	NORMAL	1,985.00	10.06	91.74	1,959.01	-19.09	280.06	280.70	0.42	0.13	-2.29	-73.08

2.1.2 Survey Stations (Continued)

Date	Type	MD (ft)	Inc (°)	Azi (°)	TVD (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLeg (°/100ft)	Build (°/100ft)	Turn (°/100ft)	TFace (°)
5/24/2010	NORMAL	2,080.00	10.00	92.74	2,052.56	-19.73	296.60	297.24	0.19	-0.06	1.05	109.50
	NORMAL	2,173.00	9.56	87.37	2,144.21	-19.77	312.38	313.00	1.09	-0.47	-5.77	-118.38
	NORMAL	2,236.00	9.66	87.14	2,206.32	-19.26	322.88	323.46	0.17	0.16	-0.37	-21.12
6/3/2010	NORMAL	2,412.00	7.79	79.21	2,380.29	-16.29	349.35	349.70	1.26	-1.06	-4.51	-151.12
	NORMAL	2,503.01	6.87	75.61	2,470.54	-13.78	360.68	360.87	1.13	-1.01	-3.96	-155.25
	NORMAL	2,594.01	5.44	74.36	2,561.02	-11.27	370.11	370.13	1.58	-1.57	-1.37	-175.27
	NORMAL	2,684.01	4.13	71.23	2,650.70	-9.08	377.28	377.16	1.48	-1.46	-3.48	-170.28
	NORMAL	2,775.01	3.31	72.11	2,741.51	-7.21	382.89	382.65	0.90	-0.90	0.97	176.46
	NORMAL	2,866.01	2.38	67.48	2,832.40	-5.68	387.13	386.80	1.05	-1.02	-5.09	-168.42
	NORMAL	2,957.01	2.06	66.73	2,923.33	-4.31	390.38	389.96	0.35	-0.35	-0.82	-175.19
	NORMAL	3,047.01	1.69	65.48	3,013.28	-3.12	393.07	392.58	0.41	-0.41	-1.39	-174.32
	NORMAL	3,138.01	1.50	63.86	3,104.24	-2.04	395.36	394.80	0.21	-0.21	-1.78	-167.46
	NORMAL	3,228.01	1.38	78.48	3,194.22	-1.31	397.48	396.87	0.43	-0.13	16.24	115.30
	NORMAL	3,319.01	1.44	76.11	3,285.19	-0.81	399.67	399.02	0.09	0.07	-2.60	-45.37
	NORMAL	3,410.01	0.81	227.11	3,376.18	-0.98	400.31	399.67	2.40	-0.69	165.93	169.64
	NORMAL	3,500.01	0.63	214.01	3,466.17	-1.82	399.56	398.98	0.27	-0.20	-14.56	-143.98
	NORMAL	3,591.01	0.63	180.86	3,557.17	-2.74	399.28	398.75	0.39	0.00	-36.43	-106.57
	NORMAL	3,682.01	0.94	181.73	3,648.16	-3.98	399.25	398.79	0.34	0.34	0.96	2.64
	NORMAL	3,773.01	0.88	190.61	3,739.15	-5.41	399.09	398.72	0.17	-0.07	9.76	117.44
	NORMAL	3,863.01	1.13	163.86	3,829.14	-6.95	399.21	398.93	0.58	0.28	-29.72	-75.76
	NORMAL	3,954.01	2.13	179.73	3,920.10	-9.50	399.47	399.34	1.20	1.10	17.44	32.37
	NORMAL	4,045.01	2.06	196.23	4,011.04	-12.76	399.02	399.08	0.66	-0.08	18.13	104.82
	NORMAL	4,135.01	0.44	108.73	4,101.02	-14.43	398.90	399.05	2.32	-1.80	-97.22	-167.84
	NORMAL	4,226.01	0.94	152.23	4,192.01	-15.20	399.58	399.78	0.76	0.55	47.80	69.50
	NORMAL	4,316.01	0.94	148.23	4,282.00	-16.48	400.31	400.58	0.07	0.00	-4.44	-92.00
	NORMAL	4,407.01	1.19	164.73	4,372.98	-18.02	400.95	401.32	0.43	0.27	18.13	59.26
	NORMAL	4,498.01	1.19	157.60	4,463.97	-19.81	401.56	402.03	0.16	0.00	-7.84	-93.56
	NORMAL	4,588.01	1.25	159.86	4,553.95	-21.60	402.25	402.83	0.09	0.07	2.51	39.86
	NORMAL	4,679.01	1.38	167.98	4,644.92	-23.60	402.82	403.51	0.25	0.14	8.92	59.20
	NORMAL	4,770.01	0.69	45.48	4,735.91	-24.29	403.44	404.17	2.03	-0.76	-134.62	-161.61
	NORMAL	4,860.01	1.75	334.86	4,825.90	-22.66	403.24	403.88	1.84	1.18	-78.47	-93.78
	NORMAL	4,951.01	1.44	339.61	4,916.86	-20.33	402.26	402.76	0.37	-0.34	5.22	159.26
	NORMAL	5,042.01	0.94	323.11	5,007.84	-18.66	401.41	401.81	0.66	-0.55	-18.13	-153.64
	NORMAL	5,132.01	1.13	309.11	5,097.83	-17.51	400.28	400.61	0.35	0.21	-15.56	-60.22
	NORMAL	5,223.01	0.94	301.61	5,188.81	-16.56	398.95	399.23	0.26	-0.21	-8.24	-148.22
	NORMAL	5,314.01	0.81	319.11	5,279.80	-15.68	397.89	398.12	0.32	-0.14	19.23	124.51
	NORMAL	5,404.01	1.94	343.36	5,369.77	-13.74	397.04	397.16	1.39	1.26	26.94	39.72
	NORMAL	5,495.01	1.94	342.48	5,460.72	-10.79	396.13	396.08	0.03	0.00	-0.97	-90.44
	NORMAL	5,586.01	1.69	350.98	5,551.68	-8.00	395.46	395.24	0.40	-0.27	9.34	137.08
	NORMAL	5,676.01	1.31	348.73	5,641.65	-5.68	395.05	394.70	0.43	-0.42	-2.50	-172.31
	NORMAL	5,767.01	1.13	343.61	5,732.63	-3.80	394.59	394.13	0.23	-0.20	-5.63	-151.34
	NORMAL	5,857.01	1.19	334.86	5,822.61	-2.10	393.94	393.39	0.21	0.07	-9.72	-75.70
	NORMAL	5,948.01	0.88	331.11	5,913.59	-0.63	393.21	392.56	0.35	-0.34	-4.12	-169.54
	NORMAL	6,039.01	0.69	152.86	6,004.59	-0.51	393.12	392.47	1.73	-0.21	-195.88	-179.23

2.2 Survey Name: PRODUCTION

Survey Name	PRODUCTION	**Company**	WEATHERFORD
Started	5/31/2010	**Ended**	
Tool Name	MWD	**Engineer**	Anadarko

2.2.1 Tie On Point

MD (ft)	Inc (°)	Azi (°)	TVD (ft)	N/S (ft)	E/W (ft)
6,039.01	0.69	152.86	6,004.59	-0.51	393.12

2.2.2 Survey Stations

Date	Type	MD (ft)	Inc (°)	Azi (°)	TVD (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLeg (°/100ft)	Build (°/100ft)	Turn (°/100ft)	TFace (°)
5/31/2010	Tie On	6,039.01	0.69	152.86	6,004.59	-0.51	393.12	392.47	0.00	0.00	0.00	0.00
6/4/2010	NORMAL	6,129.01	0.75	140.48	6,094.58	-1.45	393.74	393.14	0.18	0.07	-13.76	-75.17
	NORMAL	6,220.01	0.75	132.33	6,185.58	-2.31	394.56	394.01	0.12	0.00	-8.96	-94.07
	NORMAL	6,311.01	1.13	124.98	6,276.56	-3.22	395.73	395.24	0.44	0.42	-8.08	-21.30
	NORMAL	6,401.01	1.13	135.48	6,366.55	-4.36	397.08	396.65	0.23	0.00	11.67	95.25
	NORMAL	6,492.01	0.75	129.36	6,457.53	-5.38	398.17	397.80	0.43	-0.42	-6.73	-168.25
	NORMAL	6,583.01	0.88	127.23	6,548.53	-6.18	399.19	398.86	0.15	0.14	-2.34	-14.19
	NORMAL	6,673.01	0.81	143.61	6,638.52	-7.11	400.12	399.84	0.28	-0.08	18.20	114.25
	NORMAL	6,764.01	0.94	134.73	6,729.51	-8.16	401.03	400.82	0.21	0.14	-9.76	-50.71
	NORMAL	6,855.01	1.31	127.48	6,820.49	-9.31	402.39	402.24	0.43	0.41	-7.97	-24.69
	NORMAL	6,946.01	1.69	139.36	6,911.46	-10.97	404.09	404.03	0.54	0.42	13.05	45.33
	NORMAL	7,036.01	0.19	173.98	7,001.44	-12.12	404.97	404.98	1.71	-1.67	38.47	175.97
	NORMAL	7,127.01	0.88	352.26	7,092.44	-11.58	404.89	404.87	1.18	0.76	195.91	178.59
	NORMAL	7,218.01	0.56	337.56	7,183.43	-10.47	404.62	404.54	0.40	-0.35	-16.15	-157.22
	NORMAL	7,308.01	2.13	327.73	7,273.41	-8.65	403.56	403.37	1.76	1.74	-10.92	-13.30
6/5/2010	NORMAL	7,354.01	2.00	326.98	7,319.38	-7.26	402.67	402.40	0.29	-0.28	-1.63	-168.63
	NORMAL	7,399.01	1.69	323.98	7,364.35	-6.06	401.85	401.51	0.72	-0.69	-6.67	-164.19
	NORMAL	7,490.02	1.50	323.73	7,455.32	-4.02	400.36	399.90	0.21	-0.21	-0.27	-178.03
	NORMAL	7,580.02	1.50	333.61	7,545.29	-2.01	399.14	398.56	0.29	0.00	10.98	94.94
	NORMAL	7,671.02	0.75	254.36	7,636.27	-1.11	398.03	397.41	1.70	-0.82	-87.09	-151.55
	NORMAL	7,761.02	0.00	344.36	7,726.27	-1.27	397.47	396.85	0.83	-0.83	0.00	180.00
	NORMAL	7,852.02	0.25	110.11	7,817.27	-1.33	397.65	397.04	0.27	0.27	0.00	110.11
6/6/2010	NORMAL	7,943.02	0.19	183.23	7,908.27	-1.55	397.83	397.23	0.29	-0.07	80.35	136.98
	NORMAL	8,034.02	0.31	138.23	7,999.27	-1.89	397.99	397.41	0.24	0.13	-49.45	-82.41
	NORMAL	8,124.02	0.63	142.98	8,089.27	-2.46	398.45	397.90	0.36	0.36	5.28	9.32
	NORMAL	8,215.02	0.69	127.86	8,180.26	-3.20	399.18	398.68	0.20	0.07	-16.62	-78.65
	NORMAL	8,285.02	0.44	145.73	8,250.26	-3.68	399.66	399.19	0.43	-0.36	25.53	153.54
6/8/2010	NORMAL	9,295.02	0.44	145.73	9,260.23	-10.09	404.03	403.93	0.00	0.00	0.00	0.00
6/10/2010	NORMAL	9,444.02	0.44	145.73	9,409.23	-11.03	404.68	404.62	0.00	0.00	0.00	0.00

Anadarko Petroleum Corporation

Project: UINTAH COUNTY, UTAH (nad 27)
Site: NBU 1021-1O Pad
Well: NBU 1021-1O3AS
Wellbore: NBU 1021-1O3AS
Section: SECTION 1 T10S R21E
SHL: 393 FSL 2439 FEL
Design: NBU 1021-1O3AS
Latitude: 39° 58' 17.180 N
Longitude: 109° 29' 54.737 W
GL: 5221.00
KB: PROD RIG @ 5235.00ft (ENSIGN 146 (14 FT KB))

Weatherford®

Azimuths to True North
Magnetic North: 11.22°

Magnetic Field
Strength: 52431.1snT
Dip Angle: 65.89°
Date: 5/31/2010
Model: BGGM2009

FORMATION TOP DETAILS

TVDPath	MDPath	Formation
4621.00	4656.08	WASATCH
8141.00	8176.08	MESAVERDE

CASING DETAILS

TVD	MD	Name	Size
2241.43	2271.62	8 5/8"	8.62

SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Annotation
2236.00	9.66	87.14	2206.32	-19.30	322.88	0.00	0.00	323.45	Start 137.00 hold at 2236.00 MD
2373.00	9.66	87.14	2341.38	-18.15	345.84	0.00	0.00	346.31	Start DLS 2.00 TFO 107.15
2454.00	9.31	96.75	2421.28	-18.58	359.13	2.00	107.15	359.60	Start 1.04 hold at 2454.00 MD
2455.04	9.31	96.75	2422.30	-18.60	359.30	0.00	0.00	359.77	Start Drop -1.75
2987.08	0.00	0.00	2952.00	-23.67	402.13	1.75	180.00	402.83	Start 6471.00 hold at 2987.08 MD
9458.08	0.00	0.00	9423.00	-23.67	402.13	0.00	0.00	402.83	TD at 9458.08

WELLBORE TARGET DETAILS (MAP CO-ORDINATES AND LAT/LONG)

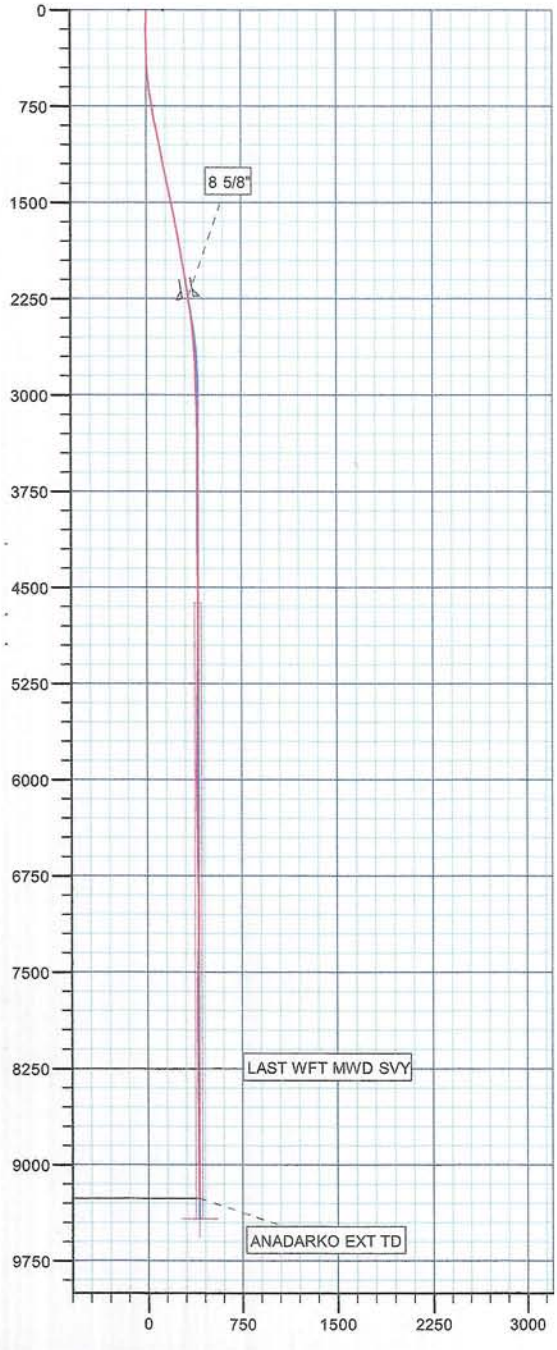
Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
PBHL	9423.00	-23.67	402.13	39° 58' 16.946 N	109° 29' 49.571 W	Circle (Radius: 25.00)

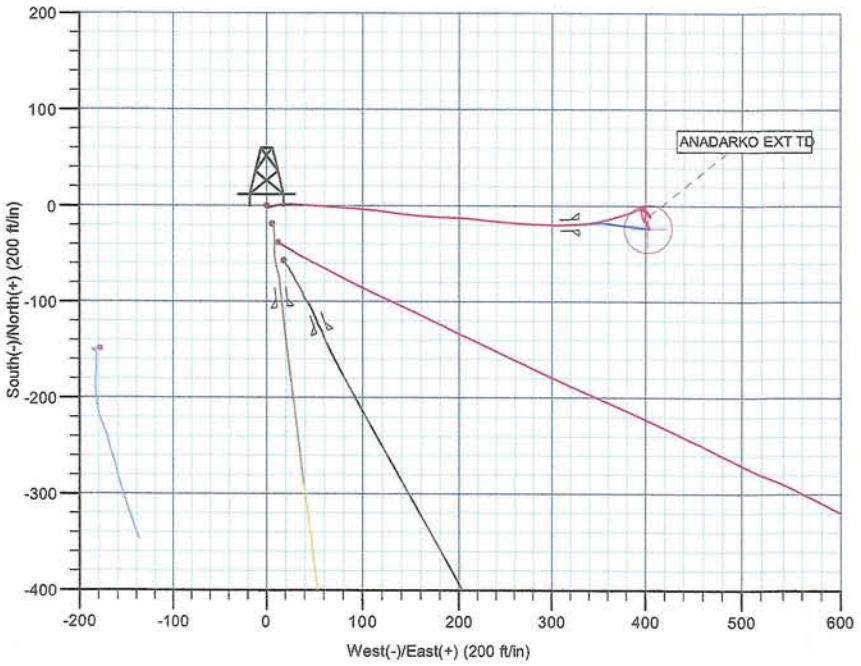
WELL DETAILS: NBU 1021-1O3AS

+N/-S	+E/-W	Northing	Ground Level:	5221.00	Longitude	Slot
			Easting	Latittude		
0.00	0.00	14519185.79	2061097.22	39° 58' 17.180 N	109° 29' 54.737 W	

LEGEND

- NBU 1021-01O EXISTING, NBU 1021-01O EXISTING, NBU 1021-01O EXISTING V0
- NBU 1021-12A2BS, NBU 1021-12A2BS, NBU 1021-12A2BS V0
- NBU 1021-12A2BS, NBU 1021-12A2BS, PLAN #1 11-19-09 RHS V0
- NBU 1021-12B3DS, NBU 1021-12B3DS, NBU 1021-12B3DS V0
- NBU 1021-12B3DS, NBU 1021-12B3DS, PLAN #1 11-19-09 RHS V0
- NBU 1021-12B4BS, NBU 1021-12B4BS, NBU 1021-12B4BS V0
- NBU 1021-12B4BS, NBU 1021-12B4BS, PLAN #1 11-19-09 RHS V0
- NBU 1021-1O3AS, NBU 1021-1O3AS, PLAN #1 11-19-09 RHS V0
- NBU 1021-1O3AS
- WEATHERFORD MWD SVY





Survey: WEATHERFORD MWD SVY (NBU 1021-1O3AS/NBU 1021-1O3AS)

Created By: Robert H. Scott Date: 14:43, June 09 2010

Company:	ANADARKO PETROLEUM CORP.	Local Co-ordinate Reference:	Well NBU 1021-1O3AS
Project:	UINTAH COUNTY, UTAH (nad 27)	TVD Reference:	PROD RIG @ 5235.00ft (ENSIGN 146 (14 FT KB))
Site:	NBU 1021-1O Pad	MD Reference:	PROD RIG @ 5235.00ft (ENSIGN 146 (14 FT KB))
Well:	NBU 1021-1O3AS	North Reference:	True
Wellbore:	NBU 1021-1O3AS	Survey Calculation Method:	Minimum Curvature
Design:	NBU 1021-1O3AS	Database:	EDM 2003.21 Single User Db

Project	UINTAH COUNTY, UTAH (nad 27),		
Map System:	Universal Transverse Mercator (US Survey Fee	System Datum:	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	Zone 12N (114 W to 108 W)		

Site	NBU 1021-1O Pad, SECTION 1 T10S R21E				
Site Position:		Northing:	14,519,185.79 ft	Latitude:	39° 58' 17.180 N
From:	Lat/Long	Easting:	2,061,097.22 ft	Longitude:	109° 29' 54.737 W
Position Uncertainty:	0.00 ft	Slot Radius:	in	Grid Convergence:	0.96 °

Well	NBU 1021-1O3AS					
Well Position	+N/-S	0.00 ft	Northing:	14,519,185.79 ft	Latitude:	39° 58' 17.180 N
	+E/-W	0.00 ft	Easting:	2,061,097.22 ft	Longitude:	109° 29' 54.737 W
Position Uncertainty		0.00 ft	Wellhead Elevation:	ft	Ground Level:	5,221.00 ft

Wellbore	NBU 1021-1O3AS				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	BGGM2009	5/31/2010	11.22	65.89	52,431

Design	NBU 1021-1O3AS				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)	
	0.00	0.00	0.00	93.37	

Survey Program Date 6/9/2010

From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
204.00	9,295.00	WEATHERFORD MWD SVY (NBU 1021-'	MWD	MWD - Standard

Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
204.00	0.69	186.99	204.00	-1.22	-0.15	-0.08	0.34	0.34	0.00
268.00	0.76	140.08	267.99	-1.93	0.08	0.19	0.91	0.11	-73.30
364.00	1.94	76.61	363.97	-2.04	2.07	2.18	1.81	1.23	-66.11
459.00	3.88	72.87	458.84	-0.72	6.70	6.73	2.05	2.04	-3.94
554.00	5.94	81.99	553.49	0.91	14.64	14.56	2.31	2.17	9.60
650.00	7.63	91.74	648.81	1.41	25.93	25.80	2.12	1.76	10.16
746.00	9.50	93.12	743.74	0.79	40.21	40.10	1.96	1.95	1.44
841.00	10.88	94.49	837.24	-0.34	56.98	56.90	1.47	1.45	1.44
937.00	11.50	93.99	931.41	-1.72	75.56	75.53	0.65	0.65	-0.52
1,032.00	12.25	93.12	1,024.38	-2.93	95.07	95.08	0.81	0.79	-0.92

Company:	ANADARKO PETROLEUM CORP.	Local Co-ordinate Reference:	Well NBU 1021-1O3AS
Project:	UINTAH COUNTY, UTAH (nad 27)	TVD Reference:	PROD RIG @ 5235.00ft (ENSIGN 146 (14 FT KB))
Site:	NBU 1021-1O Pad	MD Reference:	PROD RIG @ 5235.00ft (ENSIGN 146 (14 FT KB))
Well:	NBU 1021-1O3AS	North Reference:	True
Wellbore:	NBU 1021-1O3AS	Survey Calculation Method:	Minimum Curvature
Design:	NBU 1021-1O3AS	Database:	EDM 2003.21 Single User Db

Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
1,128.00	12.13	97.74	1,118.22	-4.84	115.24	115.32	1.02	-0.12	4.81
1,223.00	11.69	98.87	1,211.17	-7.67	134.64	134.85	0.52	-0.46	1.19
1,320.00	11.44	95.74	1,306.20	-10.14	153.92	154.25	0.70	-0.26	-3.23
1,415.00	11.94	92.87	1,399.23	-11.58	173.11	173.49	0.81	0.53	-3.02
1,511.00	11.81	91.24	1,493.18	-12.29	192.85	193.23	0.37	-0.14	-1.70
1,606.00	11.00	95.48	1,586.30	-13.36	211.59	212.01	1.23	-0.85	4.46
1,702.00	11.25	96.24	1,680.50	-15.26	230.01	230.51	0.30	0.26	0.79
1,797.00	10.06	95.24	1,773.86	-17.02	247.49	248.06	1.27	-1.25	-1.05
1,892.00	9.94	93.87	1,867.42	-18.33	263.93	264.55	0.28	-0.13	-1.44
1,985.00	10.06	91.74	1,959.01	-19.12	280.06	280.70	0.42	0.13	-2.29
2,080.00	10.00	92.74	2,052.55	-19.77	296.59	297.24	0.19	-0.06	1.05
2,173.00	9.56	87.37	2,144.20	-19.80	312.37	313.00	1.09	-0.47	-5.77
2,236.00	9.66	87.14	2,206.32	-19.30	322.88	323.45	0.17	0.16	-0.37
2,412.00	7.79	79.21	2,380.28	-16.33	349.35	349.70	1.26	-1.06	-4.51
2,503.00	6.87	75.61	2,470.54	-13.82	360.68	360.86	1.13	-1.01	-3.96
2,594.00	5.44	74.36	2,561.01	-11.30	370.10	370.13	1.58	-1.57	-1.37
2,684.00	4.13	71.23	2,650.69	-9.11	377.28	377.16	1.48	-1.46	-3.48
2,775.00	3.31	72.11	2,741.50	-7.25	382.88	382.65	0.90	-0.90	0.97
2,866.00	2.38	67.48	2,832.39	-5.72	387.13	386.79	1.05	-1.02	-5.09
2,957.00	2.06	66.73	2,923.32	-4.35	390.37	389.96	0.35	-0.35	-0.82
3,047.00	1.69	65.48	3,013.27	-3.16	393.07	392.57	0.41	-0.41	-1.39
3,138.00	1.50	63.86	3,104.24	-2.08	395.36	394.80	0.21	-0.21	-1.78
3,228.00	1.38	78.48	3,194.21	-1.34	397.48	396.87	0.43	-0.13	16.24
3,319.00	1.44	76.11	3,285.18	-0.85	399.66	399.02	0.09	0.07	-2.60
3,410.00	0.81	227.11	3,376.17	-1.01	400.30	399.67	2.40	-0.69	165.93
3,500.00	0.63	214.01	3,466.17	-1.85	399.56	398.98	0.27	-0.20	-14.56
3,591.00	0.63	180.86	3,557.16	-2.77	399.27	398.74	0.39	0.00	-36.43
3,682.00	0.94	181.73	3,648.15	-4.01	399.24	398.79	0.34	0.34	0.96
3,773.00	0.88	190.61	3,739.14	-5.45	399.09	398.72	0.17	-0.07	9.76
3,863.00	1.13	163.86	3,829.13	-6.98	399.21	398.93	0.58	0.28	-29.72
3,954.00	2.13	179.73	3,920.09	-9.53	399.47	399.34	1.20	1.10	17.44
4,045.00	2.06	196.23	4,011.03	-12.79	399.02	399.08	0.66	-0.08	18.13
4,135.00	0.44	108.73	4,101.01	-14.46	398.89	399.05	2.32	-1.80	-97.22
4,226.00	0.94	152.23	4,192.00	-15.23	399.57	399.77	0.76	0.55	47.80
4,316.00	0.94	148.23	4,281.99	-16.51	400.30	400.58	0.07	0.00	-4.44
4,407.00	1.19	164.73	4,372.98	-18.06	400.94	401.31	0.43	0.27	18.13
4,498.00	1.19	157.60	4,463.96	-19.84	401.55	402.03	0.16	0.00	-7.84
4,588.00	1.25	159.86	4,553.94	-21.63	402.25	402.82	0.09	0.07	2.51
4,679.00	1.38	167.98	4,644.91	-23.63	402.82	403.51	0.25	0.14	8.92
4,770.00	0.69	45.48	4,735.90	-24.32	403.44	404.17	2.03	-0.76	-134.62
4,860.00	1.75	334.86	4,825.89	-22.70	403.24	403.88	1.84	1.18	-78.47
4,951.00	1.44	339.61	4,916.85	-20.37	402.25	402.75	0.37	-0.34	5.22
5,042.00	0.94	323.11	5,007.83	-18.70	401.40	401.81	0.66	-0.55	-18.13
5,132.00	1.13	309.11	5,097.82	-17.55	400.27	400.61	0.35	0.21	-15.56
5,223.00	0.94	301.61	5,188.80	-16.59	398.94	399.23	0.26	-0.21	-8.24
5,314.00	0.81	319.11	5,279.79	-15.71	397.88	398.12	0.32	-0.14	19.23
5,404.00	1.94	343.36	5,369.76	-13.77	397.03	397.15	1.39	1.26	26.94
5,495.00	1.94	342.48	5,460.71	-10.83	396.13	396.08	0.03	0.00	-0.97
5,586.00	1.69	350.98	5,551.67	-8.03	395.45	395.24	0.40	-0.27	9.34
5,676.00	1.31	348.73	5,641.63	-5.71	395.04	394.70	0.43	-0.42	-2.50
5,767.00	1.13	343.61	5,732.61	-3.83	394.59	394.13	0.23	-0.20	-5.63
5,857.00	1.19	334.86	5,822.60	-2.14	393.94	393.38	0.21	0.07	-9.72
5,948.00	0.88	331.11	5,913.58	-0.67	393.20	392.56	0.35	-0.34	-4.12

Company:	ANADARKO PETROLEUM CORP.	Local Co-ordinate Reference:	Well NBU 1021-1O3AS
Project:	UINTAH COUNTY, UTAH (nad 27)	TVD Reference:	PROD RIG @ 5235.00ft (ENSIGN 146 (14 FT KB))
Site:	NBU 1021-1O Pad	MD Reference:	PROD RIG @ 5235.00ft (ENSIGN 146 (14 FT KB))
Well:	NBU 1021-1O3AS	North Reference:	True
Wellbore:	NBU 1021-1O3AS	Survey Calculation Method:	Minimum Curvature
Design:	NBU 1021-1O3AS	Database:	EDM 2003.21 Single User Db

Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
6,039.00	0.69	152.85	6,004.58	-0.54	393.11	392.47	1.73	-0.21	-195.89
6,129.00	0.75	140.48	6,094.57	-1.48	393.73	393.14	0.18	0.07	-13.74
6,220.00	0.75	132.33	6,185.56	-2.34	394.55	394.01	0.12	0.00	-8.96
6,311.00	1.13	124.98	6,276.55	-3.26	395.73	395.24	0.44	0.42	-8.08
6,401.00	1.13	135.48	6,366.53	-4.40	397.08	396.65	0.23	0.00	11.67
6,492.00	0.75	129.36	6,457.52	-5.42	398.17	397.80	0.43	-0.42	-6.73
6,583.00	0.88	127.23	6,548.51	-6.22	399.19	398.86	0.15	0.14	-2.34
6,673.00	0.81	143.61	6,638.50	-7.15	400.11	399.84	0.28	-0.08	18.20
6,764.00	0.94	134.73	6,729.49	-8.19	401.03	400.81	0.21	0.14	-9.76
6,855.00	1.31	127.48	6,820.47	-9.35	402.38	402.23	0.43	0.41	-7.97
6,946.00	1.69	139.36	6,911.44	-11.00	404.08	404.03	0.54	0.42	13.05
7,036.00	0.19	173.98	7,001.43	-12.15	404.96	404.97	1.71	-1.67	38.47
7,127.00	0.88	352.26	7,092.43	-11.61	404.88	404.86	1.18	0.76	195.91
7,218.00	0.56	337.56	7,183.42	-10.51	404.62	404.54	0.40	-0.35	-16.15
7,308.00	2.13	327.73	7,273.39	-8.69	403.56	403.37	1.76	1.74	-10.92
7,399.00	1.69	323.98	7,364.34	-6.17	401.87	401.53	0.50	-0.48	-4.12
7,490.00	1.50	323.73	7,455.30	-4.13	400.37	399.92	0.21	-0.21	-0.27
7,580.00	1.50	333.61	7,545.27	-2.12	399.15	398.59	0.29	0.00	10.98
7,671.00	0.75	254.36	7,636.26	-1.22	398.05	397.43	1.70	-0.82	-87.09
7,761.00	0.00	344.36	7,726.26	-1.37	397.48	396.87	0.83	-0.83	0.00
7,852.00	0.25	110.11	7,817.26	-1.44	397.67	397.06	0.27	0.27	0.00
7,943.00	0.19	183.23	7,908.26	-1.66	397.85	397.26	0.29	-0.07	80.35
8,034.00	0.31	138.23	7,999.26	-2.00	398.00	397.43	0.24	0.13	-49.45
8,124.00	0.63	142.98	8,089.25	-2.57	398.46	397.92	0.36	0.36	5.28
8,215.00	0.69	127.86	8,180.25	-3.31	399.19	398.70	0.20	0.07	-16.62
LAST WFT MWD SVY									
8,285.00	0.44	145.73	8,250.24	-3.79	399.68	399.21	0.43	-0.36	25.53
ANADARKO EXT TD									
9,295.00	0.44	145.73	9,260.21	-10.20	404.05	403.95	0.00	0.00	0.00

Survey Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates +N/-S (ft)	Local Coordinates +E/-W (ft)	Comment
8,285.00	8,250.24	-3.79	399.68	LAST WFT MWD SVY
9,295.00	9,260.21	-10.20	404.05	ANADARKO EXT TD

Checked By: _____ Approved By: _____ Date: _____

Anadarko
Petroleum Corporation

ANADARKO PETROLEUM CORP.

UINTAH COUNTY, UTAH (nad 27)
NBU 1021-1O Pad
NBU 1021-1O3AS

NBU 1021-1O3AS

Survey: WEATHERFORD MWD SVY

Survey Report - Geographic

09 June, 2010

Weatherford®

Company:	ANADARKO PETROLEUM CORP.	Local Co-ordinate Reference:	Well NBU 1021-1O3AS
Project:	UINTAH COUNTY, UTAH (nad 27)	TVD Reference:	PROD RIG @ 5235.00ft (ENSIGN 146 (14 FT KB))
Site:	NBU 1021-1O Pad	MD Reference:	PROD RIG @ 5235.00ft (ENSIGN 146 (14 FT KB))
Well:	NBU 1021-1O3AS	North Reference:	True
Wellbore:	NBU 1021-1O3AS	Survey Calculation Method:	Minimum Curvature
Design:	NBU 1021-1O3AS	Database:	EDM 2003.21 Single User Db

Project	UINTAH COUNTY, UTAH (nad 27),		
Map System:	Universal Transverse Mercator (US Survey Fee	System Datum:	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	Zone 12N (114 W to 108 W)		

Site	NBU 1021-1O Pad, SECTION 1 T10S R21E				
Site Position:		Northing:	14,519,185.79 ft	Latitude:	39° 58' 17.180 N
From:	Lat/Long	Easting:	2,061,097.22 ft	Longitude:	109° 29' 54.737 W
Position Uncertainty:	0.00 ft	Slot Radius:	in	Grid Convergence:	0.96 °

Well	NBU 1021-1O3AS					
Well Position	+N/-S	0.00 ft	Northing:	14,519,185.79 ft	Latitude:	39° 58' 17.180 N
	+E/-W	0.00 ft	Easting:	2,061,097.22 ft	Longitude:	109° 29' 54.737 W
Position Uncertainty		0.00 ft	Wellhead Elevation:	ft	Ground Level:	5,221.00 ft

Wellbore	NBU 1021-1O3AS				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	BGGM2009	5/31/2010	11.22	65.89	52,431

Design	NBU 1021-1O3AS				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)	
	0.00	0.00	0.00	93.37	

Survey Program Date 6/9/2010

From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
204.00	9,295.00	WEATHERFORD MWD SVY (NBU 1021-'	MWD	MWD - Standard

Company:	ANADARKO PETROLEUM CORP.	Local Co-ordinate Reference:	Well NBU 1021-1O3AS
Project:	UINTAH COUNTY, UTAH (nad 27)	TVD Reference:	PROD RIG @ 5235.00ft (ENSIGN 146 (14 FT KB))
Site:	NBU 1021-1O Pad	MD Reference:	PROD RIG @ 5235.00ft (ENSIGN 146 (14 FT KB))
Well:	NBU 1021-1O3AS	North Reference:	True
Wellbore:	NBU 1021-1O3AS	Survey Calculation Method:	Minimum Curvature
Design:	NBU 1021-1O3AS	Database:	EDM 2003.21 Single User Db

Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (ft)	Map Easting (ft)	Latitude	Longitude
0.00	0.00	0.00	0.00	0.00	0.00	14,519,185.79	2,061,097.22	39° 58' 17.180 N	109° 29' 54.737 W
204.00	0.69	186.99	204.00	-1.22	-0.15	14,519,184.57	2,061,097.09	39° 58' 17.168 N	109° 29' 54.739 W
268.00	0.76	140.08	267.99	-1.93	0.08	14,519,183.87	2,061,097.32	39° 58' 17.161 N	109° 29' 54.736 W
364.00	1.94	76.61	363.97	-2.04	2.07	14,519,183.79	2,061,099.32	39° 58' 17.160 N	109° 29' 54.710 W
459.00	3.88	72.87	458.84	-0.72	6.70	14,519,185.19	2,061,103.93	39° 58' 17.173 N	109° 29' 54.651 W
554.00	5.94	81.99	553.49	0.91	14.64	14,519,186.95	2,061,111.84	39° 58' 17.189 N	109° 29' 54.549 W
650.00	7.63	91.74	648.81	1.41	25.93	14,519,187.64	2,061,123.12	39° 58' 17.194 N	109° 29' 54.404 W
746.00	9.50	93.12	743.74	0.79	40.21	14,519,187.26	2,061,137.41	39° 58' 17.188 N	109° 29' 54.220 W
841.00	10.88	94.49	837.24	-0.34	56.98	14,519,186.41	2,061,154.20	39° 58' 17.177 N	109° 29' 54.005 W
937.00	11.50	93.99	931.41	-1.72	75.56	14,519,185.35	2,061,172.79	39° 58' 17.163 N	109° 29' 53.766 W
1,032.00	12.25	93.12	1,024.38	-2.93	95.07	14,519,184.47	2,061,192.32	39° 58' 17.151 N	109° 29' 53.515 W
1,128.00	12.13	97.74	1,118.22	-4.84	115.24	14,519,182.90	2,061,212.52	39° 58' 17.133 N	109° 29' 53.256 W
1,223.00	11.69	98.87	1,211.17	-7.67	134.64	14,519,180.40	2,061,231.96	39° 58' 17.105 N	109° 29' 53.007 W
1,320.00	11.44	95.74	1,306.20	-10.14	153.92	14,519,178.24	2,061,251.28	39° 58' 17.080 N	109° 29' 52.760 W
1,415.00	11.94	92.87	1,399.23	-11.58	173.11	14,519,177.13	2,061,270.49	39° 58' 17.066 N	109° 29' 52.513 W
1,511.00	11.81	91.24	1,493.18	-12.29	192.85	14,519,176.76	2,061,290.24	39° 58' 17.059 N	109° 29' 52.259 W
1,606.00	11.00	95.48	1,586.30	-13.36	211.59	14,519,176.00	2,061,309.00	39° 58' 17.048 N	109° 29' 52.019 W
1,702.00	11.25	96.24	1,680.50	-15.26	230.01	14,519,174.41	2,061,327.45	39° 58' 17.030 N	109° 29' 51.782 W
1,797.00	10.06	95.24	1,773.86	-17.02	247.49	14,519,172.94	2,061,344.96	39° 58' 17.012 N	109° 29' 51.557 W
1,892.00	9.94	93.87	1,867.42	-18.33	263.93	14,519,171.91	2,061,361.42	39° 58' 16.999 N	109° 29' 51.346 W
1,985.00	10.06	91.74	1,959.01	-19.12	280.06	14,519,171.39	2,061,377.56	39° 58' 16.991 N	109° 29' 51.139 W
2,080.00	10.00	92.74	2,052.55	-19.77	296.59	14,519,171.02	2,061,394.10	39° 58' 16.985 N	109° 29' 50.927 W
2,173.00	9.56	87.37	2,144.20	-19.80	312.37	14,519,171.26	2,061,409.88	39° 58' 16.985 N	109° 29' 50.724 W
2,236.00	9.66	87.14	2,206.32	-19.30	322.88	14,519,171.94	2,061,420.37	39° 58' 16.990 N	109° 29' 50.589 W
2,412.00	7.79	79.21	2,380.28	-16.33	349.35	14,519,175.35	2,061,446.79	39° 58' 17.019 N	109° 29' 50.249 W
2,503.00	6.87	75.61	2,470.54	-13.82	360.68	14,519,178.05	2,061,458.07	39° 58' 17.044 N	109° 29' 50.103 W
2,594.00	5.44	74.36	2,561.01	-11.30	370.10	14,519,180.73	2,061,467.45	39° 58' 17.069 N	109° 29' 49.982 W
2,684.00	4.13	71.23	2,650.69	-9.11	377.28	14,519,183.04	2,061,474.59	39° 58' 17.090 N	109° 29' 49.890 W
2,775.00	3.31	72.11	2,741.50	-7.25	382.88	14,519,184.99	2,061,480.16	39° 58' 17.109 N	109° 29' 49.818 W
2,866.00	2.38	67.48	2,832.39	-5.72	387.13	14,519,186.60	2,061,484.38	39° 58' 17.124 N	109° 29' 49.764 W
2,957.00	2.06	66.73	2,923.32	-4.35	390.37	14,519,188.02	2,061,487.61	39° 58' 17.137 N	109° 29' 49.722 W
3,047.00	1.69	65.48	3,013.27	-3.16	393.07	14,519,189.26	2,061,490.28	39° 58' 17.149 N	109° 29' 49.687 W
3,138.00	1.50	63.86	3,104.24	-2.08	395.36	14,519,190.38	2,061,492.55	39° 58' 17.160 N	109° 29' 49.658 W
3,228.00	1.38	78.48	3,194.21	-1.34	397.48	14,519,191.15	2,061,494.66	39° 58' 17.167 N	109° 29' 49.631 W
3,319.00	1.44	76.11	3,285.18	-0.85	399.66	14,519,191.68	2,061,496.83	39° 58' 17.172 N	109° 29' 49.603 W
3,410.00	0.81	227.11	3,376.17	-1.01	400.30	14,519,191.52	2,061,497.48	39° 58' 17.170 N	109° 29' 49.594 W
3,500.00	0.63	214.01	3,466.17	-1.85	399.56	14,519,190.67	2,061,496.75	39° 58' 17.162 N	109° 29' 49.604 W
3,591.00	0.63	180.86	3,557.16	-2.77	399.27	14,519,189.75	2,061,496.48	39° 58' 17.153 N	109° 29' 49.608 W
3,682.00	0.94	181.73	3,648.15	-4.01	399.24	14,519,188.50	2,061,496.47	39° 58' 17.141 N	109° 29' 49.608 W
3,773.00	0.88	190.61	3,739.14	-5.45	399.09	14,519,187.07	2,061,496.34	39° 58' 17.127 N	109° 29' 49.610 W
3,863.00	1.13	163.86	3,829.13	-6.98	399.21	14,519,185.54	2,061,496.48	39° 58' 17.111 N	109° 29' 49.608 W
3,954.00	2.13	179.73	3,920.09	-9.53	399.47	14,519,182.99	2,061,496.78	39° 58' 17.086 N	109° 29' 49.605 W
4,045.00	2.06	196.23	4,011.03	-12.79	399.02	14,519,179.72	2,061,496.39	39° 58' 17.054 N	109° 29' 49.611 W
4,135.00	0.44	108.73	4,101.01	-14.46	398.89	14,519,178.05	2,061,496.29	39° 58' 17.037 N	109° 29' 49.612 W
4,226.00	0.94	152.23	4,192.00	-15.23	399.57	14,519,177.29	2,061,496.99	39° 58' 17.030 N	109° 29' 49.604 W
4,316.00	0.94	148.23	4,281.99	-16.51	400.30	14,519,176.03	2,061,497.74	39° 58' 17.017 N	109° 29' 49.594 W
4,407.00	1.19	164.73	4,372.98	-18.06	400.94	14,519,174.49	2,061,498.41	39° 58' 17.002 N	109° 29' 49.586 W
4,498.00	1.19	157.60	4,463.96	-19.84	401.55	14,519,172.72	2,061,499.05	39° 58' 16.984 N	109° 29' 49.578 W
4,588.00	1.25	159.86	4,553.94	-21.63	402.25	14,519,170.94	2,061,499.77	39° 58' 16.967 N	109° 29' 49.569 W
4,679.00	1.38	167.98	4,644.91	-23.63	402.82	14,519,168.95	2,061,500.37	39° 58' 16.947 N	109° 29' 49.562 W
4,770.00	0.69	45.48	4,735.90	-24.32	403.44	14,519,168.27	2,061,501.00	39° 58' 16.940 N	109° 29' 49.554 W
4,860.00	1.75	334.86	4,825.89	-22.70	403.24	14,519,169.89	2,061,500.78	39° 58' 16.956 N	109° 29' 49.557 W
4,951.00	1.44	339.61	4,916.85	-20.37	402.25	14,519,172.20	2,061,499.75	39° 58' 16.979 N	109° 29' 49.569 W
5,042.00	0.94	323.11	5,007.83	-18.70	401.40	14,519,173.86	2,061,498.88	39° 58' 16.996 N	109° 29' 49.580 W

Company:	ANADARKO PETROLEUM CORP.	Local Co-ordinate Reference:	Well NBU 1021-1O3AS
Project:	UINTAH COUNTY, UTAH (nad 27)	TVD Reference:	PROD RIG @ 5235.00ft (ENSIGN 146 (14 FT KB))
Site:	NBU 1021-1O Pad	MD Reference:	PROD RIG @ 5235.00ft (ENSIGN 146 (14 FT KB))
Well:	NBU 1021-1O3AS	North Reference:	True
Wellbore:	NBU 1021-1O3AS	Survey Calculation Method:	Minimum Curvature
Design:	NBU 1021-1O3AS	Database:	EDM 2003.21 Single User Db

Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (ft)	Map Easting (ft)	Latitude	Longitude
5,132.00	1.13	309.11	5,097.82	-17.55	400.27	14,519,174.99	2,061,497.73	39° 58' 17.007 N	109° 29' 49.595 W
5,223.00	0.94	301.61	5,188.80	-16.59	398.94	14,519,175.92	2,061,496.38	39° 58' 17.016 N	109° 29' 49.612 W
5,314.00	0.81	319.11	5,279.79	-15.71	397.88	14,519,176.78	2,061,495.31	39° 58' 17.025 N	109° 29' 49.625 W
5,404.00	1.94	343.36	5,369.76	-13.77	397.03	14,519,178.71	2,061,494.42	39° 58' 17.044 N	109° 29' 49.636 W
5,495.00	1.94	342.48	5,460.71	-10.83	396.13	14,519,181.64	2,061,493.47	39° 58' 17.073 N	109° 29' 49.648 W
5,586.00	1.69	350.98	5,551.67	-8.03	395.45	14,519,184.42	2,061,492.75	39° 58' 17.101 N	109° 29' 49.657 W
5,676.00	1.31	348.73	5,641.63	-5.71	395.04	14,519,186.73	2,061,492.30	39° 58' 17.124 N	109° 29' 49.662 W
5,767.00	1.13	343.61	5,732.61	-3.83	394.59	14,519,188.61	2,061,491.81	39° 58' 17.142 N	109° 29' 49.668 W
5,857.00	1.19	334.86	5,822.60	-2.14	393.94	14,519,190.29	2,061,491.13	39° 58' 17.159 N	109° 29' 49.676 W
5,948.00	0.88	331.11	5,913.58	-0.67	393.20	14,519,191.75	2,061,490.37	39° 58' 17.174 N	109° 29' 49.686 W
6,039.00	0.69	152.85	6,004.58	-0.54	393.11	14,519,191.87	2,061,490.28	39° 58' 17.175 N	109° 29' 49.687 W
6,129.00	0.75	140.48	6,094.57	-1.48	393.73	14,519,190.94	2,061,490.92	39° 58' 17.166 N	109° 29' 49.679 W
6,220.00	0.75	132.33	6,185.56	-2.34	394.55	14,519,190.10	2,061,491.75	39° 58' 17.157 N	109° 29' 49.668 W
6,311.00	1.13	124.98	6,276.55	-3.26	395.73	14,519,189.20	2,061,492.94	39° 58' 17.148 N	109° 29' 49.653 W
6,401.00	1.13	135.48	6,366.53	-4.40	397.08	14,519,188.08	2,061,494.31	39° 58' 17.137 N	109° 29' 49.636 W
6,492.00	0.75	129.36	6,457.52	-5.42	398.17	14,519,187.08	2,061,495.42	39° 58' 17.127 N	109° 29' 49.622 W
6,583.00	0.88	127.23	6,548.51	-6.22	399.19	14,519,186.30	2,061,496.45	39° 58' 17.119 N	109° 29' 49.609 W
6,673.00	0.81	143.61	6,638.50	-7.15	400.11	14,519,185.39	2,061,497.39	39° 58' 17.110 N	109° 29' 49.597 W
6,764.00	0.94	134.73	6,729.49	-8.19	401.03	14,519,184.36	2,061,498.32	39° 58' 17.099 N	109° 29' 49.585 W
6,855.00	1.31	127.48	6,820.47	-9.35	402.38	14,519,183.22	2,061,499.70	39° 58' 17.088 N	109° 29' 49.568 W
6,946.00	1.69	139.36	6,911.44	-11.00	404.08	14,519,181.60	2,061,501.42	39° 58' 17.072 N	109° 29' 49.546 W
7,036.00	0.19	173.98	7,001.43	-12.15	404.96	14,519,180.46	2,061,502.32	39° 58' 17.060 N	109° 29' 49.534 W
7,127.00	0.88	352.26	7,092.43	-11.61	404.88	14,519,181.00	2,061,502.24	39° 58' 17.066 N	109° 29' 49.535 W
7,218.00	0.56	337.56	7,183.42	-10.51	404.62	14,519,182.10	2,061,501.95	39° 58' 17.077 N	109° 29' 49.539 W
7,308.00	2.13	327.73	7,273.39	-8.69	403.56	14,519,183.90	2,061,500.86	39° 58' 17.095 N	109° 29' 49.553 W
7,399.00	1.69	323.98	7,364.34	-6.17	401.87	14,519,186.39	2,061,499.13	39° 58' 17.119 N	109° 29' 49.574 W
7,490.00	1.50	323.73	7,455.30	-4.13	400.37	14,519,188.41	2,061,497.60	39° 58' 17.140 N	109° 29' 49.593 W
7,580.00	1.50	333.61	7,545.27	-2.12	399.15	14,519,190.39	2,061,496.35	39° 58' 17.159 N	109° 29' 49.609 W
7,671.00	0.75	254.36	7,636.26	-1.22	398.05	14,519,191.28	2,061,495.23	39° 58' 17.168 N	109° 29' 49.623 W
7,761.00	0.00	344.36	7,726.26	-1.37	397.48	14,519,191.11	2,061,494.66	39° 58' 17.167 N	109° 29' 49.631 W
7,852.00	0.25	110.11	7,817.26	-1.44	397.67	14,519,191.05	2,061,494.85	39° 58' 17.166 N	109° 29' 49.628 W
7,943.00	0.19	183.23	7,908.26	-1.66	397.85	14,519,190.83	2,061,495.03	39° 58' 17.164 N	109° 29' 49.626 W
8,034.00	0.31	138.23	7,999.26	-2.00	398.00	14,519,190.50	2,061,495.19	39° 58' 17.161 N	109° 29' 49.624 W
8,124.00	0.63	142.98	8,089.25	-2.57	398.46	14,519,189.93	2,061,495.66	39° 58' 17.155 N	109° 29' 49.618 W
8,215.00	0.69	127.86	8,180.25	-3.31	399.19	14,519,189.21	2,061,496.41	39° 58' 17.148 N	109° 29' 49.609 W
LAST WFT MWD SVY									
8,285.00	0.44	145.73	8,250.24	-3.79	399.68	14,519,188.74	2,061,496.90	39° 58' 17.143 N	109° 29' 49.602 W
ANADARKO EXT TD									
9,295.00	0.44	145.73	9,260.21	-10.20	404.05	14,519,182.40	2,061,501.38	39° 58' 17.080 N	109° 29' 49.546 W

Company:	ANADARKO PETROLEUM CORP.	Local Co-ordinate Reference:	Well NBU 1021-1O3AS
Project:	UINTAH COUNTY, UTAH (nad 27)	TVD Reference:	PROD RIG @ 5235.00ft (ENSIGN 146 (14 FT KB))
Site:	NBU 1021-1O Pad	MD Reference:	PROD RIG @ 5235.00ft (ENSIGN 146 (14 FT KB))
Well:	NBU 1021-1O3AS	North Reference:	True
Wellbore:	NBU 1021-1O3AS	Survey Calculation Method:	Minimum Curvature
Design:	NBU 1021-1O3AS	Database:	EDM 2003.21 Single User Db

Survey Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates +N/-S (ft)	Local Coordinates +E/-W (ft)	Comment
8,285.00	8,250.24	-3.79	399.68	LAST WFT MWD SVY
9,295.00	9,260.21	-10.20	404.05	ANADARKO EXT TD

Checked By: _____ Approved By: _____ Date: _____

API Well No: 43047508540000

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS, AND MINING

FORM 9

5.LEASE DESIGNATION AND SERIAL NUMBER: ML 23612

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

7.UNIT or CA AGREEMENT NAME: NATURAL BUTTES

1. TYPE OF WELL Gas Well

8. WELL NAME and NUMBER: NBU 1021-1O3AS

2. NAME OF OPERATOR: KERR-MCGEE OIL & GAS ONSHORE, L.P.

9. API NUMBER: 43047508540000

3. ADDRESS OF OPERATOR: P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779 **PHONE NUMBER:** 720 929-6007 Ext

9. FIELD and POOL or WILDCAT: NATURAL BUTTES

4. LOCATION OF WELL
FOOTAGES AT SURFACE: 0393 FSL 2439 FEL
QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: Qtr/Qtr: SWSE Section: 01 Township: 10.0S Range: 21.0E Meridian: S

COUNTY: UINTAH

STATE: UTAH

11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION		
✓ NOTICE OF INTENT Approximate date work will start: 12/10/2010	☐ ACIDIZE	☐ ALTER CASING	✓ CASING REPAIR
☐ SUBSEQUENT REPORT Date of Work Completion:	☐ CHANGE TO PREVIOUS PLANS	☐ CHANGE TUBING	☐ CHANGE WELL NAME
☐ SPUD REPORT Date of Spud:	☐ CHANGE WELL STATUS	☐ COMMINGLE PRODUCING FORMATIONS	☐ CONVERT WELL TYPE
☐ DRILLING REPORT Report Date:	☐ DEEPEN	☐ FRACTURE TREAT	☐ NEW CONSTRUCTION
	☐ OPERATOR CHANGE	☐ PLUG AND ABANDON	☐ PLUG BACK
	☐ PRODUCTION START OR RESUME	☐ RECLAMATION OF WELL SITE	☐ RECOMPLETE DIFFERENT FORMATION
	☐ REPERFORATE CURRENT FORMATION	☐ SIDETRACK TO REPAIR WELL	☐ TEMPORARY ABANDON
	☐ TUBING REPAIR	☐ VENT OR FLARE	☐ WATER DISPOSAL
	☐ WATER SHUTOFF	☐ SI TA STATUS EXTENSION	☐ APD EXTENSION
	☐ WILDCAT WELL DETERMINATION	✓ OTHER	OTHER: Wellhead

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.

The operator requests approval to conduct wellhead/casing repair operations on the subject well location. This well is a producing gas well. Please find the attached procedure for the proposed repair work on the subject well location.

Approved by the Utah Division of Oil, Gas and Mining

Date: 12/14/2010

By: Dark K Quist

NAME (PLEASE PRINT)	PHONE NUMBER	TITLE
Andy Lytle	720 929-6100	Regulatory Analyst
SIGNATURE N/A		**DATE** 12/9/2010

RECEIVED December 09, 2010

WORKORDER #: 88104325

Name: NBU 1021-103AS 12/9/10
Location: SWSE SEC.12, T10S, R21E
Uintah County, UT

ELEVATIONS: 5221' GL 5236' KB

TOTAL DEPTH: 9444' **PBTD:** 9404'

SURFACE CASING: 8 5/8", 28# IJ-55 ST&C @ 2276'

PRODUCTION CASING: 4 1/2", 11.6#, I-80 LT&C @ 9428'
Marker Joint 4598'-4619'
T.O.C.@ ~250'

PERFORATIONS: Mesaverde 7268' – 8954'
Wasatch 5480' – 7175'

	BURST (psi)	COLLAPSE (psi)	DRIFT DIA. (in.)	CAPACITIES	
				(bbl/ft)	(gal/ft)
2 3/8" 4.7# J-55 tbg	7,700	8,100	1.901"	0.00387	0.1624
4 ½" 11.6# I-80 (See above)	7780	6350	3.875"	0.0155	0.6528
2 3/8" by 4 ½" Annulus				0.0101	0.4227

GEOLOGICAL TOPS:

1447' Green River
1730' Bird's Nest
2212' Mahogany
4644' Wasatch
7256' Mesaverde
9444' Bottom of Mesaverde (TD)

Completion Information:

- 8/18/10 - Perf and frac gross MV/Was interval f/ 5480' – 8954' in 7 stages using 294,920# sand & 7594 bbls slickwater
- Well IP'd on 8/29/10 - 738 MCFD,0 BOPD, 685 BWPD, CP #1399, FTP 682#, CK 20/64", LP 130#, 24 HRS

NBU 1021-103AS– WELLHEAD REPLACEMENT PROCEDURE

PREP-WORK PRIOR TO MIRU:

Prior to initiating back-off or casing cutting activities the UDOGM will be notified. Specifically, Mr. Dave Hackford (435-722-7589) will be called, and if not available, Dan Jarvis (801-538-5338) and or Dustin Doucet (801-538-5281) will be notified. No work will be accomplished prior to notifying the appropriate UDOGM representative.

1. Dig out down to the 2" surface casing valve or to the valve on the riser off the surface casing.
2. Install a tee with 2 valves, with a pressure gauge and sensor on one valve.
3. Open casing valve and record pressures.
4. Install nipple and steel hose on the other valve, the relief valve,. Do not use hammer unions. No impact equipment or tools to be used for any of this installation. Extend hose and hard piping to a downwind location at least 100' from the wellhead. Consider installing a manifold so that vent area could be in two locations approx. 90 degrees apart from the wellhead.
5. Open the relief valve and blow well down to the atmosphere.
6. Make a determination of amount of gas flow, either by installation of a choke nipple, bucket test or other.
7. Shut well in. Observe for rate of build-up by utilizing sensor data. Do not build-up for more than 24 hours. Vent gas through the vent line and leave open to the atmosphere.

WORKOVER PROCEDURE:

1. MIRU workover rig.
2. Kill well with 10# brine / KCL (dictated by well pressure).
3. Remove tree, install double BOP with blind and 2 3/8" pipe rams, with accumulator closing unit and manual back-ups. Function test BOP system.
4. Pooh w/ tubing.
5. Rig up wireline service. RIH and set CBP @ ~5430'. Dump bail 4 sx cement on top of plug. POOH and RD wireline service.
6. Remove BOP and ND WH.
7. Depending on conditions at wellsite, continue with either CUT/PATCH Procedure or BACK-OFF Procedure.

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CUT/PATCH PROCEDURE:

1. PU internal casing cutters and RIH. Cut casing at +/- 30' from surface.
2. Pooh, LD cutters and casing.
3. PU & RIH w/ 4 ½" 10k external casing patch on 4 ½" I-80 or P-110 casing.
4. Latch fish, PU to 100,000# tension. RU B&C. Cycle pressure test to 7,000# / 9,000# psi.
5. Install C-22 slips. Land casing w/ 80,000# tension.
6. Cut-off and dress 4 ½" casing stub.
7. NUWH. PU 3 7/8" bit, POBS and RIH. D/O cement and plug ~5430'. Clean out to PBTD (9404').
8. POOH, land tbg and pump off POBS.
9. NUWH, RDMO. Turn well over to production ops.

BACK-OFF PROCEDURE:

1. PU internal casing cutters and RIH. Cut casing at +/- 6' from surface.
2. POOH, LD cutters and casing.
3. PU 4 ½" overshot. RIH, latch fish. Pick string weight to neutral.
4. MIRU wireline services. RIH and shoot string shot at casing collar @ 46'.
5. MIRU casing crew.
6. Back-off casing, Pooh.
7. PU new casing joint w/ entry guide and RIH. Tag casing top. Thread into casing and torque up to +/- 6000#.
8. PU 100,000# tension string weight. RU B&C. Cycle pressure test to 7,000# / 9,000# psi.
9. Install C-22 slips. Land casing w/ 80,000# tension.
10. Cut-off and dress 4 ½" casing stub.
11. NUWH. PU 3 7/8" bit, POBS and RIH. D/O cement and plug ~5430'. Clean out to PBTD (9404').

12. POOH, land tbg and pump off POBS.

13. NUWH, RDMO. Turn well over to production ops.

Logan High Pressure Casing Patches
Assembly Procedure

All parts should be thoroughly greased before being assembled.

1. Install all four Logan Type “L” Packers in the spaces provided in the Casing Patch Bowl. Refer to diagram provided for proper installation.

2. Install Packer Protector from the Basket Grapple end of the Bowl. The beveled end of the Packer Protector goes in first. Carefully push the Packer Protector through the four Type “L” Packers.

3. Align Shear Pin Holes in Packer Protector so that the holes have just passed into the counter bore at the Top Sub end, refer to diagram. The Packer Protector is provided with four Shear Pin Holes. Use only two holes, 180 degrees apart and install the pins.

4. Screw the Basket Grapple in from the lower end of the Bowl, using left-hand rotation. The Tang Slot in the Basket Grapple must land in line with the slot in the Bowl.

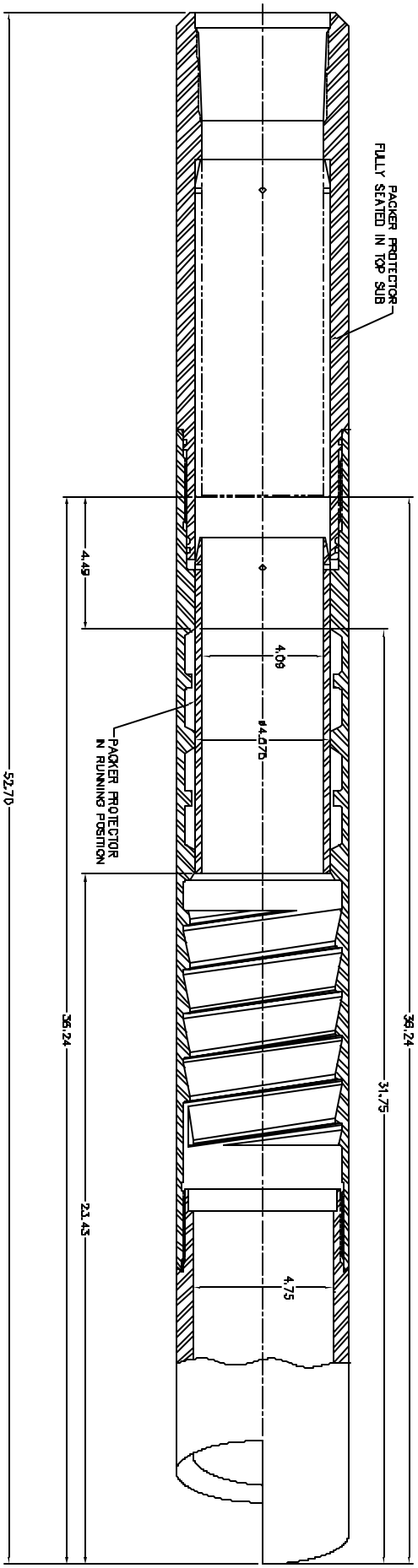
5. Insert the Basket Grapple Control into the end of the Bowl. Align Tang on the Basket Grapple Control with the Tang Slot of the Bowl and Basket Grapple. This secures the Bowl and the Basket Grapple together.

6. Install the Cutlipped Guide into the lower end of the Bowl.

7. Install O-Rings on the two five-foot long Extensions. Screw the first Extension into the top end of the Bowl. Screw the second Extension into the top end of the first Extension.

8. Install O-Ring on Top Sub. Screw Top Sub into top end of second Extension.

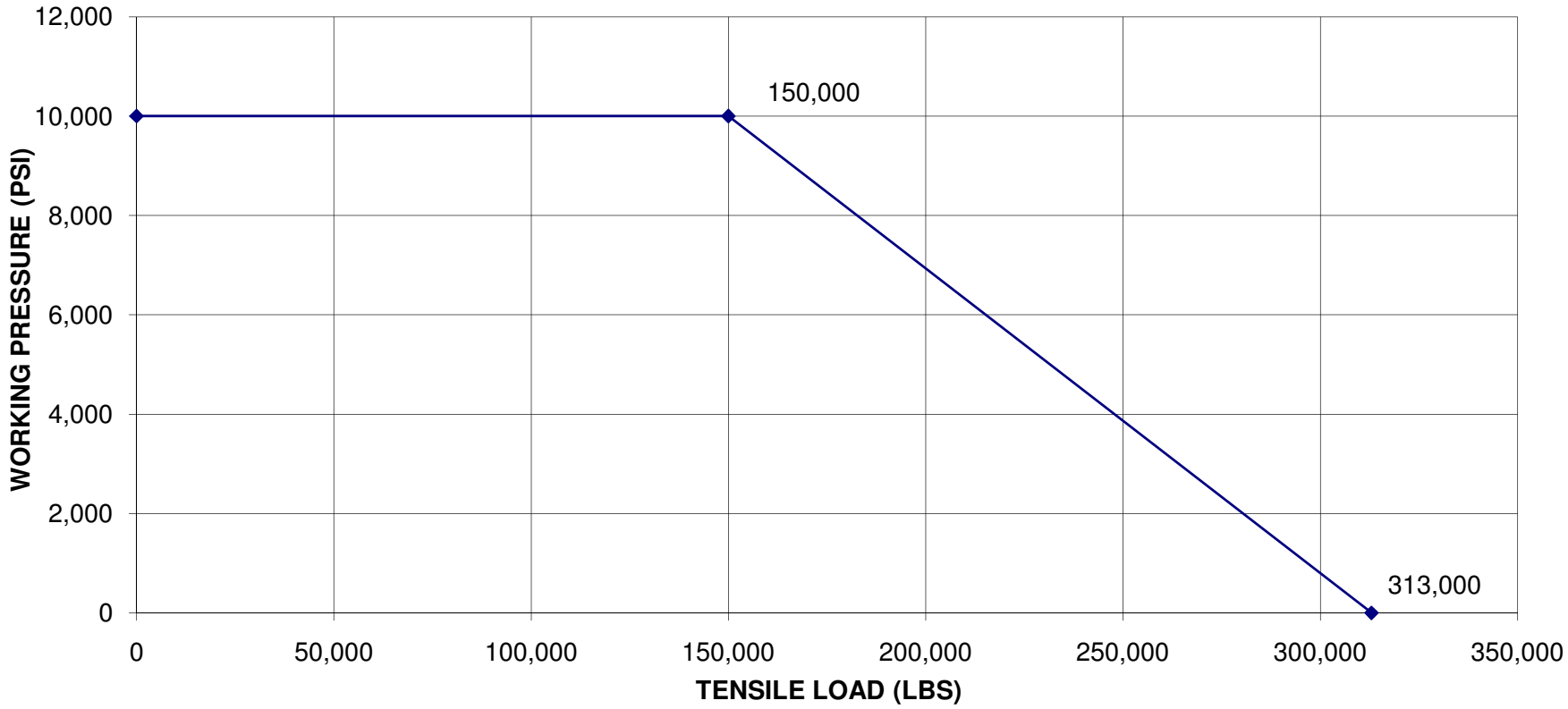
Follow recommended Make-Up Torque as provided in chart.



510L-005-001 4-1/2" LOGAN HP CASING PATCH

RECEIVED December 09, 2010

STRENGTH DATA FOR LOGAN 5.88" OD "L" TYPE CSG PATCH
4-1/2 CASING, 10K PSI MAX WP 125K YIELD MAT'L
LOGAN ASSEMBLY NO. 510L-005 -000



COLLAPSE PRESSURE:
11,222 PSI @ 0 TENSILE
8,634 PSI @ 220K TENSILE

Tensile Strength @ Yield:
Tensile Strength w/ 0 Int. Press.= 472,791lbs.
Tensile Strength w/ 10K Int. Press.= 313,748lbs.

DATA BY SLS 11/16/2009

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS, AND MINING

FORM 9

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.

5.LEASE DESIGNATION AND SERIAL NUMBER: ML 23612

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

7.UNIT or CA AGREEMENT NAME: NATURAL BUTTES

1. TYPE OF WELL Gas Well

8. WELL NAME and NUMBER: NBU 1021-1O3AS

2. NAME OF OPERATOR: KERR-MCGEE OIL & GAS ONSHORE, L.P.

9. API NUMBER: 43047508540000

3. ADDRESS OF OPERATOR: P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779

PHONE NUMBER: 720 929-6515 Ext

9. FIELD and POOL or WILDCAT: NATURAL BUTTES

4. LOCATION OF WELL
FOOTAGES AT SURFACE: 0393 FSL 2439 FEL
QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: Qtr/Qtr: SWSE Section: 01 Township: 10.0S Range: 21.0E Meridian: S

COUNTY: UINTAH

STATE: UTAH

11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION		
☐ NOTICE OF INTENT Approximate date work will start:	☐ ACIDIZE	☐ ALTER CASING	✓ CASING REPAIR
✓ SUBSEQUENT REPORT Date of Work Completion: 3/22/2011	☐ CHANGE TO PREVIOUS PLANS	☐ CHANGE TUBING	☐ CHANGE WELL NAME
☐ SPUD REPORT Date of Spud:	☐ CHANGE WELL STATUS	☐ COMMINGLE PRODUCING FORMATIONS	☐ CONVERT WELL TYPE
☐ DRILLING REPORT Report Date:	☐ DEEPEN	☐ FRACTURE TREAT	☐ NEW CONSTRUCTION
	☐ OPERATOR CHANGE	☐ PLUG AND ABANDON	☐ PLUG BACK
	☐ PRODUCTION START OR RESUME	☐ RECLAMATION OF WELL SITE	☐ RECOMPLETE DIFFERENT FORMATION
	☐ REPERFORATE CURRENT FORMATION	☐ SIDETRACK TO REPAIR WELL	☐ TEMPORARY ABANDON
	☐ TUBING REPAIR	☐ VENT OR FLARE	☐ WATER DISPOSAL
	☐ WATER SHUTOFF	☐ SI TA STATUS EXTENSION	☐ APD EXTENSION
	☐ WILDCAT WELL DETERMINATION	✓ OTHER	OTHER: Wellhead

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.

The operator has concluded wellhead/casing repair operations on the subject well. Please see the attached chronological well history.

Accepted by the Utah Division of Oil, Gas and Mining

FOR RECORD ONLY

NAME (PLEASE PRINT)	PHONE NUMBER	TITLE
Andy Lytle	720 929-6100	Regulatory Analyst
SIGNATURE N/A		**DATE** 4/5/2011

RECEIVED Apr. 05, 2011

US ROCKIES REGION

Operation Summary Report

Well: NBU 1021-1O3AS [RED]	Spud Conductor: 5/10/2010	Spud Date: 5/22/2010
Project: UTAH-UINTAH	Site: NBU 1021-1O PAD	Rig Name No: MILES 2/2
Event: WELL WORK EXPENSE	Start Date: 3/17/2011	End Date: 3/22/2011
Active Datum: RKB @5,235.00ft (above Mean Sea Leve	UWI: SW/SE/0/10/S/21/E/1/0/0/6/PM/S/393.00/E/0/2,439.00/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (ft)	Operation
3/17/2011	7:00 - 7:30	0.50	MAINT	48		P		MIRU
	7:30 - 15:00	7.50	MAINT	31		P		MOVE IN TO RIG UP, NO ANCHORS, WAIT TO GET ANCHORS SET
	7:00 -		PROD	35	G	P		Travel to location rig up run in hole and pull spring fror 8063 pooh leave spring out for w/o rig down move to next well FLUID LEVEL 3000SEAT NIPPLE DEPTH 8063 SN TYPE X TD (Max Depth) JOB DETAILS SPRING AND/OR PRODUTION TOOL DETAIL Spring Out Used-StandardSpring In Drop Down Menu Stuck Spring Drop Down Menu Corrosion on Spring Drop Down Menu Bailed Acid Drop Down Menu Broken Spring Drop Down Menu Scale on Spring Drop Down Menu Production Tools Drop Down Menu Depth of Tool Other Hardware Drop Down Menu PLUNGER DETAIL Stuck Plunger Drop Down Menu Corrosion on Plunger Drop Down Menu Broken PlungerDrop Down Menu Scale on Plunger Drop Down Menu SOLIDS DETAIL Tight Spots Drop Down Menu Severity of Trash Medium Solid sample to turn in Drop Down Menu Solid Sample SourceDrop Down Menu Speculated Type of Solid Iron Sulfide Speculated Depth of Solid LOST SLICKLINE TOOLS Slickline Tools Lost Drop Down Menu Depth of Tool
3/18/2011	7:00 - 7:30	0.50	MAINT	48		P		TRIPPING TBG
	7:30 - 19:00	11.50	MAINT	31		P		150# TBG, 250# CSG, BLOW DWN WELL, PUMP 50 BBLS TBG, 70 BBLS CSG, NDWH, NU BOP'S, TEST BOP'S TO 3000#, UNLAND TBG, STD BACK 127 STDS TBG. RU CUTTERS, TIH GAUGE RING TO 5450', CUTTERS TRK BROKE DWN, CALL FOR 2ND TRK, POOH, RU 2ND TRK, PU 10K CBP, TIH SET AT 5535', POOH, PU BAILER, BAIL 4 SX CEMENT ON TOP OF 10K PLUG, POOH, RD CUTTERS, FILL CSG WITH T-MAC, PRESSURE TEST TO 1500# 10 MIN., BLEED OFF PRESSURE, SWIFN
3/21/2011	7:00 - 7:30	0.50	MAINT	48		P		PRESSURE TESTING

US ROCKIES REGION

Operation Summary Report

Well: NBU 1021-1O3AS [RED]	Spud Conductor: 5/10/2010	Spud Date: 5/22/2010
Project: UTAH-UINTAH	Site: NBU 1021-1O PAD	Rig Name No: MILES 2/2
Event: WELL WORK EXPENSE	Start Date: 3/17/2011	End Date: 3/22/2011
Active Datum: RKB @5,235.00ft (above Mean Sea Leve	UWI: SW/SE/0/10/S/21/E/1/0/0/6/PM/S/393.00/E/0/2,439.00/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (ft)	Operation
	7:30 - 7:30	0.00	MAINT	33				ND BOP'S, ND TBG SPOOL, DROP PLUMP BOB, CEMENT AT 53', RU WEATHERFORD, CUT OFF CSG, PU OVERSHOT, TORQUE CSG TO 7000#, 2 1/2 TURNS, POOH LD OVERSHOT, CLEAN CUT, STING IN WITH CSG PATCH, LAND,PULL UP 100,000#, RU B&C QUICK TEST, TEST CSG 1000#, 15 MIN, 3500# 15 MIN, 7000# 30 MIN,AS PER PROCEDURE, TEST HELD, BLEED OFF CSG, PU 80,000#, SET C-21 SLIPS, CUT OFF CSG, RU B&C PRESSURE UP SURFACE TO 200# 15 MIN, 900# 30 MIN, NO COMMUNICATION, RD B&C, NU TBG SPOOL, WEATHERFORD TEST, NU BOP'S, WIND BLOWING HARD, CAN'T TIH TBG. SWIFN
3/22/2011	7:00 - 7:30	0.50	MAINT	48		P		DRILLING PLUGS
	7:30 - 18:30	11.00	MAINT	50				TIH TBG, TAG CEMENT, RU WEATHERFORD FOAM, BREAK CIRC, DRILL CEMENT, CBP, C/O TO PBTD TAG 9190', RU PWR SWIVEL, WEATHERFORD, C/O TO 27' , C/0 TO 9217', HIT SOLID, CIRC CLEAN WITH NITROGEN UNIT, POOH TO 8042' 254 JTS, LAND TBG, ND BOP'S, NUWH, POBS WITH NITROGEN, 1500#, RUN BROACH TO SN, RETURN TO PROD, CALL CDC, RDMO TO NBU 1021-12B3DS. TBG RUN 254 JTS, 8023.24' HANGER .83' XNSN 1.875" 2.20 ' KB 15.00' EOT 8042.00' WTR PUMPED 780 BBLS WTR RCVD 630 BBLS

DIVISION OF OIL, GAS AND MINING

SPUDDING INFORMATION

Name of Company: **KERR-McGEE OIL & GAS ONSHORE, L. P.**

Well Name: **NBU 1021-1O3AS**

Api No: **43-047-50854** Lease Type: **STATE**

Section **01** Township **10S** Range **21E** County **UINTAH**

Drilling Contractor **PETE MARTIN DRLG** RIG # **BUCKET**

SPUDDED:

Date **05/10/2010**

Time **10:00AM**

How **DRY**

Drilling will Commence:

Reported by **GARRETT EATON**

Telephone # **(435) 219-1439**

Date **05/11/2010** **Signed** **CHD**

DIVISION OF OIL, GAS AND MINING

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SPUDDED:

Date **05/10/2010**

Time **10:00AM**

How **DRY**

Drilling will Commence:

Reported by **GARRETT EATON**

Telephone # **(435) 219-1439**

Date **05/11/2010** **Signed** **CHD**